

2014

CATÁLOGO
CATALOGUE



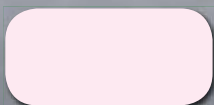
power *coil*
by *celesa*



IDENTIFICACIÓN DE DESCUENTOS POR COLORES
SEGÚN EL FONDO DONDE ESTÉN SITUADOS LOS PRECIOS

BACKGROUND COLOUR DISCOUNT IDENTIFICATION
DISCOUNTS ARE RELATED TO BACKGROUND COLOURS OF EACH PRICE

IDENTIFICATION DES REMISES EN FONCTION DES COULEURS
SELON LA COULEUR DU FOND SUR LEQUEL EST ÉCRIT LE PRIX



FONDO ROSA

PINK DISCOUNT

FOND ROSE

Todos los productos que se ofrecen en este catálogo de insertos para roscas POWERCOIL 2014 están tarifados en Euros €.

All the products shown on this thread inserts POWERCOIL 2014 catalogue are priced in Euro € currency.

Tous les prix indiqués dans le catalogue de filets rapportés POWERCOIL 2014 sont en Euros €.

powercoil
by CELESA



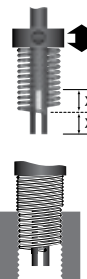
1 Taladrar
Drill / Percage



2 Roscar
Tap / Filetage



3 Instalar
Insert / Installation



4 Romper Arrastre
Snap / Rupture Languette



5 Hecho!
Done! / Fini!



powercoil
by CELESA



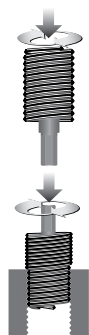
1 Taladrar
Drill / Percage



2 Roscar
Tap / Filetage



3 Instalar
Insert / Installation



4 Romper Arrastre
Snap / Rupture Languette



5 Hecho!
Done! / Fini!



powercoil
by CELESA



1 Taladrar
Drill / Percage



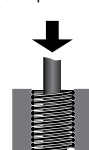
2 Roscar
Tap / Filetage



3 Instalar
Insert / Installation



4 Romper Arrastre
Snap / Rupture Languette



5 Hecho!
Done! / Fini!



1 Taladrar
Drill / Percage



2 Roscar
Tap / Filetage



3 Instalar
Insert / Installation



4 Ocultar Pestañas
Drive / Occulter Languettes



loksert
by CELESA

**INSERTOS
ESTUCHES DE REPARACIÓN DE ROSCAS
MACHOS Y COMPROBADORES DE ROSCAS
HERRAMIENTAS PARA INSTALACIÓN DE
INSERTOS
EXPOSITORES**



**THREAD INSERTS
THREADS REPAIRING KITS
TAPS AND GAUGES
INSTALLATION TOOLS
DISPLAYS**

**FILETS RAPPORTÉS
KITS DE RÉPARATION
TARAUDS ET CALIBRES
OUTILS DE POSE
PRÉSENTOIRS**

Pag
10-71



Pag
88-91



Inserto standard (libre)
Free running insert
Filet rapporté standard



Inserto Autobloqueante
Screw Locking Insert
Filet rapporté à frein



Métrica y métrica fina
Metric course and metric fine
Métrique à pas normal et fin



Rosca Americana UNC
Unified National Course
Pas normal américain



Rosca American fina UNF
Unified National Fine
Pas fin américain



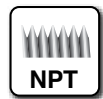
Rosca Inglesa Whitworth
British Standard Whitworth
Pas normal Whitworth



Rosca Inglesa Whitworth fina
British Standard Fine
Pas fin Whitworth



Rosca Inglesa BSP / GAS
British Standard Pipe
Pas Gas britannique



Rosca cónica Americana NPT
National Pipe Taper
Pas conique américain



Rosca Americana UN-8hilos
8-UN Constant Pitch
Pas Américain constant UN-8 filets



Rosca Inglesa BA
British Association
Pas Association britannique (BA)



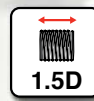
Rosca Inglesa BSB (Latón)
British Standard Brass
Pas Anglais BSB (laiton)



Código de familia
Group Code
Code Famille



Longitud del inserto instalado = $\emptyset \times 1.0$
Installed Insert Length = $\emptyset \times 1.0$
Longueur du filet installé = $\emptyset \times 1.0$



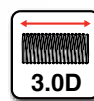
Longitud del inserto instalado = $\emptyset \times 1.5$
Installed Insert Length = $\emptyset \times 1.5$
Longueur du filet installé = $\emptyset \times 1.5$



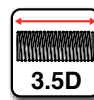
Longitud del inserto instalado = $\emptyset \times 2.0$
Installed Insert Length = $\emptyset \times 2.0$
Longueur du filet installé = $\emptyset \times 2.0$



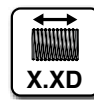
Longitud del inserto instalado = $\emptyset \times 2.5$
Installed Insert Length = $\emptyset \times 2.5$
Longueur du filet installé = $\emptyset \times 2.5$



Longitud del inserto instalado = $\emptyset \times 3.0$
Installed Insert Length = $\emptyset \times 3.0$
Longueur du filet installé = $\emptyset \times 3.0$



Longitud del inserto instalado = $\emptyset \times 3.5$
Installed Insert Length = $\emptyset \times 3.5$
Longueur du filet installé = $\emptyset \times 3.5$



Codificación de la long. del inserto instalado = $\emptyset \times "D"$
Installed Insert length Codification = $\emptyset \times "D"$
Codification de la longueur du filet installé = $\emptyset \times "D"$



Inserto de acero inoxidable 304
304 Stainless steel insert
Filet rapporté en acier inox. 304



Longitud de rosca de la buja
Spark plug Installed insert Length
longueur de filetage de la bougie



Conformidad en pedido especial
Standard Compliance By Special Order
Conformité des filets pour commande spéciale



Conformidad de inserto
Insert Standard Compliance
Conformité du filet rapporté



Broca de HSS
High Speed Steel Drill
Foret en acier HSS



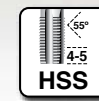
Comprobador pasa, no pasa
STI Go No - Go Gauges
Calibre Go / No - Go



Macho de mano HSS
High Speed Steel STI Tap
Taraud à main HSS



M/MF, UNC, UNF, 8 UN, NPT
Macho de mano
HSS STI Tap
Taraud à main



BSW, BSF, BSP, BSB
Macho de mano
HSS STI Tap
Taraud à main



BA
Macho de mano
HSS STI Tap
Taraud à main



Macho con doble entrada para bujías
Spark Plug - HSS Pilot Nose STI Tap
Taraud HSS pour bougie d'allumage



Macho Helicoidal 35° HSS - V3 (3%V)
HSS - V3 (3%V) Spiral Flute STI Tap
Taraud Hélicoïdal 35° HSS-V3 (3%V)



Macho con entrada corregida F/B HSS-V3 3%V)
HSS - V3 (3%V) Spiral Point (Gun Nose) STI Tap
Taraud entrée gun HSS-V3 (3%V)



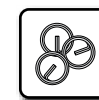
Macho en tolerancia 4H/5H
STI Tap 4H/5H Tolerance
Taraud de tolérance 4H/5H



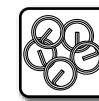
Macho en tolerancia 3B
STI Tap 3B Tolerance
Taraud de tolérance 3B



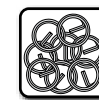
Carretes de insertos
Strip Feed Inserts
Rouleaux/Chargeurs de Filets rapportés



Series cortas
Low Volume
Volume faible



Series medianas
Low - Medium Volume
Volume faible - moyen



Series largas
High Volume
Volume élevé



Herramienta de instalación manual
Hand Installation Tool
Outil manuel de pose



Diámetro del inserto
Insert Diameter
Diamètre du filet



Paso en mm y pulgada
Pitch (mm & TPI)
Pas (mm et TPI)



Longitud instalada
Installed Length
Longueur posée



Unidades de embalaje
Units of packing
Des unités d'emballage



Nº de Insertos
No of inserts
Nb de filets



Diámetro de la broca
Drill Size
Diamètre du foret



Macho de rosca
Tap
Taraud



Herramienta de instalación Nº
Instal Toll Part No
Code de l'outil de pose



Rompedor de cola
Tang Break Part No
Rupteur

Insertos a granel
Bulk Inserts
Filets rapportés en vrac



10

Insertos en blister para colgar
Hang Sell Inserts
Filets en Blister



24

Insertos Autoblocantes a granel
Bulk Locking Inserts
Filets rapportés à frein en vrac



26

Estuches de reparación
Thread Repairs Kits
Kits de réparation



32

Insertos en carretes
Strip Feed Inserts
Filets rapportés en rouleaux



46

Insertos Autoblocantes en carretes
Strip Feed Locking Inserts
Filets rapportés à frein en rouleaux



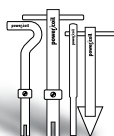
48

Machos de mano y máquina,
comprobadores pasa, no pasa
STI Taps & Gauges
Tarauds main et machine, calibres



52

Herramientas de Instalación y Extracción
Tools
Outils de pose et extracteur



60

Manual Técnico Power Coil
Power Coil Technical
Documents techniques Power Coil



72

Insertos a granel
Bulk Inserts
Filets en vrac



88

Herramientas de Instalación y Extracción
Tools
Outils de pose et extracteur



91

Manual Técnico Power Coil
Power Coil Technical
Documents techniques Power Coil



92



Código 35 20-12.00 X 1.5D

35	PowerCoil en acero inoxidable
36	Loksert en acero al carbono
37	Loksert en acero inoxidable

20	Métrica	32	UNC
21	Métrica fina	34	UNF
22	Bujía	44	BA
23	Métrica fina	46	BSP
24	Métrica fina	52	NPT
28	BSW	60	BSB
30	BSF	70	8-UN
00	Multifuncional		

DIÁMETRO	
XX . XX	Métrica
XX / XX	Pulgadas

X.XD	Longitud del inserto	INC	Inconel X-750
IR	Carrete de alimentación de insertos	NM	Nimonic 90
SL	Insertos autoblocantes (de seguridad)	NT	Nitronic 60
K	Estuche de reparación de roscas	Y	Acero Inoxidable 316
P	Blister de insertos para colgar	CD	Terminado en cadmio
WK	Estuche completo para taller	ZN	Terminado de zinc
HIT	Herramienta de instalación manual Series Cortas	AG	Terminado de plata
HIP	Herramienta de instalación Series Medianas	FL	Lubricado en seco
MIT	Herramienta para insertar a máquina	I	Macho 4-5 hilos
HIM	Herramienta para insertar con mango hexagonal	T	Macho 6-8 hilos
MIP	Herramienta de instalación neumática	B	Macho 2-3 hilos
TB	Herramienta rompedora de cola Manual	SF	Macho de máquina helicoidal
STB	Herramienta rompedora de cola Automática	SP	Macho de máquina con entrada corregida
PTB	Herramienta rompedora de cola Neumática	FT	Macho laminación
RT	Herramienta extractora de insertos	PD	Loksert de pared delgada
LH	Giro izquierdo	PR	Loksert de pared reforzada
GC	Comprobador de roscas en tolerancia 4H5H	TT	Herramienta instalación de Loksert de pared delgada
GM	Comprobador de roscas en tolerancia 6H	HT	Herramienta instalación de Loksert de pared reforzada
PB	Bronce con fósforo	T	Herramienta de instalación universal para Loksert



Part No. 35 20-12.00 X 1.5D

35	PowerCoil - Stainless Steel
36	Loksert - Carbon Steel
37	Loksert - Stainless Steel

20	Metric Coarse	32	UNC
21	Metric Fine	34	UNF
22	Spark Plug	44	BA
23	Metric Fine	46	BSP
24	Metric Fine	52	NPT
28	BSW	60	BSB
30	BSF	70	8-UN
00	Multifuncional		

DIAMETER	
XX . XX	Metric
XX / XX	Imperial

X.XD	Insert length as a factor of nominal screw	INC	Inconel X-750
IR	PowerCoil strip-feed reel	NM	Nimonic 90
SL	PowerCoil screw locking	NT	Nitronic 60
K	PowerCoil thread repair kit	Y	316 Stainless Steel
P	PowerCoil Hang sell insert packet	CD	Cadmium plate
WK	PowerCoil workshop kit	ZN	Zinc plate
HIT	Hand installation tool	AG	Silver plate
HIP	Prewinder installation tool	FL	Dry film lubricant
MIT	Machine installation tool	I	Tap Intermediate STI
HIM	Hex drive installation mandrel	T	Tap Taper STI
MIP	Pneumatic installation tool	B	Tap Bottoming STI
TB	Tang break tool	SF	Tap Spiral Flute STI
STB	Spring loaded tang break tool	SP	Tap Spiral Point STI
PTB	Pneumatic tang break tool	FT	Tap Fluteless STI
RT	Removal/extraction tool	PD	Loksert Thin Wall
LH	Left Hand	PR	Loksert Heavy Duty
GC	Gauge STI 4H5H tolerance	TT	Loksert Thin Wall install tool
GM	Gauge STI 6H tolerance	HT	Loksert Heavy Duty install tool
PB	Phosphor bronze	T	Loksert Universal install tool



Pièce Nr. 35 20-12.00 X 1.5D

35	PowerCoil - Acier inoxydable
36	Loksert - Acier au carbone
37	Loksert - Acier inoxydable

20	Métrique à pas normaux	32	UNC
21	Métrique à pas fins	34	UNF
22	Bougie d'allumage	44	BA
23	Métrique à pas fins	46	BSP
24	Métrique à pas fins	52	NPT
28	BSW	60	BSB
30	BSF	70	8-UN
00	Multifonctionnel		

DIAMÈTRE	
XX . XX	Métrique
XX / XX	Impérial

X.XD	Longueur du filet rapporté	INC	Inconel X-750
IR	Rouleaux d'alimentation de filets rapportés	NM	Nimonic 90
SL	Filets rapportés à frein	NT	Nitronic 60
K	kit de réparation de filets	Y	Acier inoxydable 316
P	Blister de filets rapportés	CD	Finition au cadmium
WK	kit complet pour atelier	ZN	Finition au zinc
HIT	Outil de pose manuel	AG	Finition argent
HIP	Outil de pose série moyenne	FL	film de lubrifiant sec
MIT	Outil de pose machine	I	Taraut intermédiaire
HIM	Outil de pose Hexagonal	T	Taraut ébaucheur
MIP	Outil de pose pneumatique	B	Taraut finisseur
TB	Rupteur	SF	Taraut à goujures hélicoïdales
STB	Rupteur automatique	SP	Taraut à entrée gun
PTB	Rupteur Pneumatique	FT	Taraut à refouler
RT	Outil d'extraction	PD	Loksert à paroi fine
LH	Coupe à gauche	PR	Loksert à paroi renforcée
GC	Jauge STI de tolérance 4H5H	TT	Outil de pose pour Loksert à paroi fine
GM	Outil de pose pour Loksert à paroi renforcée	HT	Outil de pose pour Loksert à paroi renforcée
PB	Outil d'installation universel pour Loksert	T	Outil d'installation universel pour Loksert

Fabricados en acero inoxidable al cromo níquel de alta calidad, los insertos para reparación de roscas Power Coil proporcionan una alta resistencia a la temperatura y a la corrosión. Su diseño único asegura roscas de superior calidad cuyo comportamiento no puede ser igualado por ningún otro método de seguridad. Se encuentran disponibles en dos presentaciones básicas, standard y autoblocante o de seguridad, son mucho más ligeros y menos costosos que cualquier otro tipo de inserto equivalente y dado su tamaño compacto pueden generalmente incorporarse a diseños existentes en donde no sea necesaria ningún tipo de reparación.

Insertos Standard

Fabricados a partir de un alambre de acero inoxidable austenítico, y perfilados de forma precisa en forma de espiral helicoidal, los insertos standard Power Coil tienen forma de muelle. Cuando se instalan utilizando cualquiera de las herramientas, ya sean manuales o automáticas, proporcionan roscas internas resistentes y permanentes que soportan el calor y la corrosión. Una vez instalados su posición se mantiene por la acción de presión radial entre los filetes y las ranuras del agujero roscado. Esta presión existe porque su diámetro libre es ligeramente superior al instalado en una pequeña proporción previamente calculada.

Insertos Autoblocantes (Seguridad)

El inserto autoblocante está especialmente indicado en aplicaciones sujetas a vibración cíclica o impactos. Además de las ventajas proporcionadas por los insertos standard, los insertos autoblocantes (de seguridad) Power Coil ofrecen una seguridad adicional por su auto freno interno que lo hace más efectivo. Esto se consigue gracias a la acción de una espira poligonal de la rosca del inserto posicionada a lo largo del mismo, que ejerce presión radial sobre los hilos del tornillo. En la medida en que la rosca pasa a través de estos hilos de seguridad, los dispositivos se expanden aplicando gradualmente presión radial o freno efectivo en la rosca del tornillo. Al retirar el tornillo roscado, los hilos de seguridad relajan su expansión a su forma original permitiendo repetir el roscado del tornillo y manteniendo su nivel de presión radial de seguridad.

NOTA:

Se recomienda que solamente se utilicen tornillos niquelados o bien lubricados, con los insertos de seguridad.

Características y Beneficios

Durante muchos años, los insertos helicoidales han sido subestimados. El concepto popular de ser diseñados para reparar roscas dañadas ha dado a este sistema único, esta falsa imagen.

Son mucho más ligeros y menos costosos que cualquier otro tipo equivalente de inserto de rosca, y por su tamaño compacto, pueden generalmente introducirse en diseños preexistentes en donde no se requiera una reparación adicional. Además de otros beneficios económicos, su utilización incrementa la calidad y rendimiento mientras reduce el costo total del producto. Su utilización es efectiva al utilizar materiales más delgados o más ligeros sin sacrificar la resistencia de la rosca.

Los insertos protegen las roscas originales contra posibles fallos de pérdida de hilos, pérdida de medida, corrosión o desgaste. Los insertos Power Coil están fabricados con cable de acero inoxidable austenítico, que le permite trabajar con una fuerza a la tensión de 200,000 psi y una dureza de RC 43-50. Los insertos tienen un acabado superficial tan fino que prácticamente elimina la fricción que induce al posible desgaste.

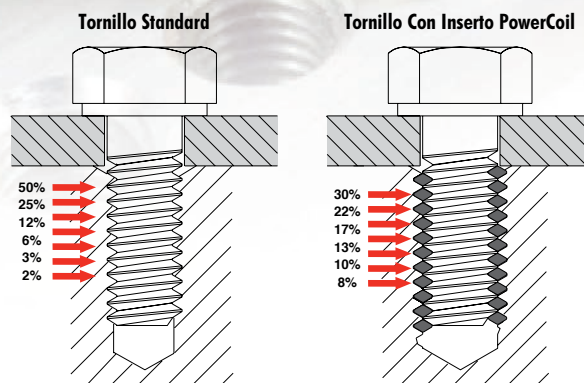
La rosca está perfilada con diamante, y está preparada para alojar tornillos con garantía de éxito. Los insertos Power Coil pueden instalarse en secciones reducidas de bordes, flancos y dentro de áreas pequeñas — salvando espacio y peso mientras proporcionan alta resistencia.

Una amplia gama de herramientas de instalación se encuentra disponible para adaptarse a diferentes técnicas de producción. Existe una gama de herramientas manuales para pequeñas reparaciones; y las herramientas de máquina y neumáticas, por lo general; están disponibles para altas producciones.

Resistencia

Debido a su flexibilidad, los insertos conforman roscas internas que cuentan con una mucho mejor distribución de carga residual que las comparadas con agujeros roscados convencionales, en donde un porcentaje superior al 70% de las fuerzas cortantes son llevadas a cabo por los tres primeros hilos en el agujero roscado. La flexibilidad de los insertos ayudan a compensar los errores del paso y del ángulo de flancos inherentes a los agujeros normales roscados, y mejora significativamente la capacidad de carga por deflexión de fuerzas residuales dentro de la rosca en donde la presión se dispersa hacia las paredes del agujero roscado. Esto hace que el diseño sea muy fiable y de gran resistencia utilizando roscas más pequeñas y más cortas aun cuando los insertos sean usados en materiales menos resistentes.

Los insertos Power Coil de alta flexibilidad reducen su diámetro durante la instalación. La fuerza del inserto al expandirse en el agujero asegura el inserto en su lugar correcto. Cada filete puede flexionarse independientemente para ponerse en contacto con la mayor cantidad de material de la superficie de la rosca.



Elimina Tensiones

No existe sistema de sujeción, amarre, bloqueo, etc, del inserto en su alojamiento, sino que la propia acción de muelle del inserto lo mantiene en su lugar. Por lo tanto, el inserto está exento de padecer tensiones externas.

Resistencia al Desgaste

La combinación de la dureza en el material y el acabado brillante de los insertos configuran roscas, en las que el desgaste de la rosca ocasionada por el uso es prácticamente nulo. Esto es de gran valor para aplicaciones que requieren ensamblaje y desensamblaje repetido. El bajo coeficiente de fricción asegura prácticamente que todas las fuerzas de ensamblaje aplicadas se conviertan en cargas de sujeción, dando como resultado que las roscas se mantengan firmes.

Protección Contra Corrosión

El alambre de acero inoxidable austenítico 8/18 usado en los insertos Power Coil resiste la corrosión bajo condiciones ambientales normales. La acción corrosiva de agentes externos dentro del ensamblaje de la rosca se reduce, incrementando la vida de la unión inserto-tornillo.

La corrosión galvánica es la forma más significativa de corrosión y afecta tanto a los insertos como a los tornillos. La corrosión galvánica aparece cuando existen metales en presencia de una solución electrolítica. Todos los metales tienen grados diferentes de "actividad" o "nobleza". El oro y el platino son los más nobles, mientras el zinc y el magnesio son los más activos. La solución electrolítica más común es el agua ordinaria. El agua de mar o spray salado es más dañina por la alta concentración de sales disueltas.

La mejor manera de prevenir la corrosión galvánica es usar metales potencialmente similares y eliminar el conductor electrolítico. El activo del acero inoxidable usado en las roscas de los insertos Power Coil no está pasivizado. Esto minimiza la posibilidad de que se produzca corrosión galvánica cuando se instalan en aluminio y magnesio o materiales similares. Algunas precauciones adicionales que deben tomarse en cuenta para prevenir la corrosión galvánica son:

1. Aislar los tornillos de los electrolitos. Esto puede hacerse a través de encapsulado o sellado
2. Específicamente usar insertos recubiertos de cadmio. El acabado en cadmio proporciona una barrera contra la corrosión. Adicionalmente, el acabado en cadmio tiene propiedades lubricantes que minimizan el roce cuando se usan tornillos de acero inoxidable.
3. Aplicar pastas o compuestos inhibidores de corrosión al tornillo. Esto incluye al sellador zinc cromado (MIL-P-8585) y el sellador estroncio cromado (MIL-P-23377). Nota: Las pastas aplicadas al inserto helicoidal entre las roscas y el agujero pueden causar pérdida de la tolerancia propia. Por lo tanto se recomienda aplicar la pasta solamente al tornillo y no al inserto. Si el sellador cromo zinc es aplicado al agujero roscado debe rebajarse y aplicarse escasamente. El inserto debe instalarse mientras el sellador esta aun húmedo.
4. Dar una película de lubricante seco como el disulfato de molibdeno en los insertos, proporciona una barrera secundaria contra la corrosión.
5. Cuando sea práctico o cuando no interfiera con el ensamblaje, la junta externa deberá ser cubierta con una pintura adecuada.

Normas de referencia

SBAC AS 6734 & 8456

Norma de la Sociedad Británica de Compañías Aeroespaciales. Referida específicamente a los insertos libres Rosca UNC, requisito obligatorio exigido por la Sociedad. En realidad, muy similar al Standard Militar.

SBAC AS 6733 & 8455

Mismo requisito que el anterior extensivo a todos los insertos libres con carácter general.

BS

Standard Británico para Insertos de diámetro reducido. Es la norma generalizada para todos los fabricantes de insertos, equivalente a DIN8140.

NASM3279, 3280 & 3281

Standard militar para insertos libres. Los Insertos según Standard militar son mayores en diámetro en estado libre que los insertos comunes, por lo que son más difíciles de instalar, y de extraer. CELESA puede suministrar y certificar este tipo de insertos bajo demanda. La norma alemana DIN8140 para insertos de uso general tiene similares tolerancias que los Insertos de según Standard militar.

LN9499

Standard aeroespacial alemán. En desuso, aunque CELESA puede suministrar y certificar este tipo de insertos bajo demanda.

DIN8140

Los insertos Powercoil distribuidos por CELESA cumplen con los requisitos recogidos en la Norma DIN8140



Manufactured from high quality chromium nickel stainless steel, PowerCoil Wire Thread Inserts provide high strength internal threads that resist the effects of temperature and corrosion. Their unique design ensures superior threads whose compound performance cannot be reproduced by any other single fastening method. Available in two basic forms, free running or screw locking, they are much lighter and less expensive than any other equivalent type of thread insert and because of their compact size they can generally be incorporated into existing designs where no previous provision has been made.

Free Running

Produced from precision profiled austenitic stainless steel wire wound into a helical spiral, PowerCoil free running inserts have a spring like appearance. When installed, using any one of a variety of manual or automatic tools, they provide strong permanent internal threads which resist heat and corrosion. Once fitted, their position is maintained by the action of radial pressure between their coils and the flanks of the tapped hole. This pressure exists because their free diameter is larger by a calculated amount, than their installed diameter.

Screw Locking

Screw locking (or prevailing torque) inserts are of particular value in applications subject to the effects of cyclic vibration or impact. In addition to the benefits afforded by free running inserts, PowerCoil screw locking inserts offer the additional security of prevailing locking torque. This is achieved by the action of one or more polygonal grip coils positioned within the insert's length, which exert radial pressure on the male thread. Each grip coil consists of a number of tangential locking chords which protrude inside the minor diameter of the normal free running coils. As the male thread passes through these grip coils, the locking flats are displaced thus exerting radial pressure or prevailing torque on the male thread. On removal of the male thread, the locking coils relax to their original form permitting repeated assembly whilst retaining a measurable level of prevailing torque.

NOTE:

It is recommended that only close fit plated or lubricated bolts or screws are used with screw locking inserts.

Features & Benefits

For many years, helically coiled wire thread inserts have been vastly underestimated. The popular misconception that they were designed for the repair of damaged threads has given this unique fastener a false image.

They are much lighter and less expensive than any other equivalent type of thread insert and because of their compact size, can generally be introduced into existing designs where no previous provision has been made. Unlike many other economic measures, their introduction increases quality and performance whilst reducing overall product cost. Their introduction may result in the use of thinner sections or lighter parent materials without sacrificing thread strength.

They protect tapped threads against failures due to stripping, seizing, corrosion and wear. PowerCoil wire thread inserts are produced from austenitic stainless steel wire which is work hardened to a tensile strength above 200,000psi and a hardness of Rc43-50. The inserts have an exceedingly smooth surface finish which virtually eliminates friction-induced thread erosion.

The continuous helically coiled design negates the need for thick wall structures to support the internal and external threads - the diamond profile wire coil IS the thread. PowerCoil wire thread inserts can be installed in reduced size bosses or flanges and within constricted areas - saving space and weight while providing high strength.

A boss radius equal to the nominal bolt diameter is usually sufficient.

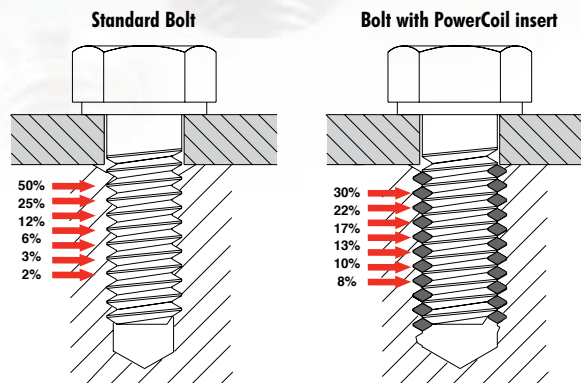
A complete range of installation tools are available to suit specific production techniques. A range of hand tools exist for small runs and repairs; electric and pneumatic tools are available for high volume production requirements.

Strength

Due to their flexibility, wire thread inserts create internal threads which have a much improved distribution of residual stress loading when compared with conventional tapped holes, where up to 70% of the shearing forces are carried by the first three threads in the tapped hole. The flexibility of wire thread inserts helps to compensate for pitch and flank angle errors, inherent in normal tapped holes, and significantly enhances the load bearing capacity by deflecting the residual forces into a helical hoop stress which is dispersed into the wall of the tapped hole. This enables the design to be confidently based on the bolt strength utilising smaller and shorter threads even when used in low strength materials..

The high tensile coils of a wire thread insert undergo a diameter reduction during installation. The outward spring-like force of the coils "locks" the insert into place.

Each coil can flex independently to contact the greatest amount of parent material thread surface. Both static and dynamic load bearing capabilities are improved.



Eliminate Stress

Virtually no stress is introduced into the parent material because there is no staking, locking, swaging or keying in place. The outward "spring action" of the insert holds it in place.

Wear Resistance

The combination of material hardness and the brilliant surface finish of wire thread inserts creates internal threads in which wear due to thread friction is virtually eliminated. This is of particular value in applications requiring repeated assembly & disassembly. The low frictional coefficient ensures that virtually all of the applied assembly torque is converted into clamping load. Thus providing threads that stay tight.

Corrosion Protection

The 18/8 austenitic stainless steel wire used in PowerCoil inserts resists corrosion under normal environmental conditions. Galvanic action within the thread assembly is reduced, increasing the life of the fastening assembly.

Galvanic corrosion is most significant form of corrosion affecting inserts and fasteners. Galvanic corrosion occurs when dissimilar metals are in contact in the presence of an electrolytic solution. All metals exhibit different degrees of "activity" or "nobility" and can be arranged in a galvanic series of increasing activity. Gold and platinum are most noble while zinc and magnesium are most active. The most common electrolytic solution encountered is ordinary water. Seawater or salt spray is more damaging because of high concentrations of dissolved salts.

The best way to preclude galvanic corrosion is to use similar potential metals and eliminate the electrolyte conductor. The active stainless steel of PowerCoil wire thread inserts are not passivated. This minimizes the possibility of galvanic corrosion occurring when they are installed in aluminum or magnesium parent materials.

Some additional precautions for reducing galvanic corrosion are:

1. Isolate the fasteners from the electrolyte. This can be done through gasketing or sealing.
2. Specify cadmium plated inserts. The cadmium plate provides a sacrificial barrier against corrosion. In addition, the cadmium plate has lubricating properties that minimize galling when stainless steel screws are used.
3. Apply corrosion inhibiting pastes or compounds to the screw. These include zinc chromate primer (MIL-P-8585) and strontium chromate primer (MIL-P-23377). Note: Pastes applied to the CoilThread Insert can become trapped between the wire and the hole and cause loss of proper tolerance. It is therefore recommended to apply the paste only to the screw, not the insert. If zinc chromate primer is applied to the tapped hole it should be thinned and applied sparingly. The insert should be installed while the primer is still wet.
4. Specify a dry film lubricant such as molybdenum disulphide on the inserts. This provides a secondary barrier against corrosion.
5. Where practical or where it will not interfere with the completed assembly, the external joint should be coated with a suitable paint.

Fabriqués à partir d'acier inoxydable chrome-nickel de qualité supérieure, les filets rapportés PowerCoil offrent une résistance élevée à la température et à la corrosion. Leur design unique garantit des filetages de qualité supérieure dont la performance ne peut être atteinte par aucune autre méthode de fixation simple. Disponibles sous deux formes de base, standard ou à frein, ils sont plus légers et moins chers que tout autre type de filet rapporté équivalent et, grâce à leur petite taille, ils peuvent être généralement incorporés à des profils existants sans qu'il n'y ait à réaliser de réparation.

Modèle standard

Fabriqués à partir de fil d'acier inoxydable austénitique et profilés en spirale hélicoïdale, les filets rapportés PowerCoil standard ressemblent à des ressorts. Une fois installés, à l'aide de l'un des outils manuels ou automatiques, ils fournissent des filets internes solides et permanents qui résistent à la chaleur et à la corrosion. Une fois posés, leur position est maintenue par l'action de la pression radiale qui s'exerce entre les filets et les flancs du trou taraudé. Cette pression existe parce que leur diamètre réel est légèrement supérieur à la valeur du diamètre une fois posé.

Modèle à frein

Les filets rapportés à frein sont extrêmement utiles pour les applications sujettes aux effets provoqués par les vibrations cycliques ou les chocs. En plus des avantages des filets rapportés standard, les filets rapportés PowerCoil à frein offrent une sécurité supplémentaire avec le couple de freinage permanent. Ceci est accompli par la pression radiale exercée sur le filetage extérieur par une spire à déformation polygonale positionnée sur la longueur du filet rapporté. Chaque spire déformée exerce une pression radiale au couple permanent sur les filets de la vis. Lorsque l'on retire la vis, la spire de freinage reprend sa forme originale, permettant des assemblages répétés tout en conservant un niveau de couple de freinage permanent.

REMARQUE :

Il est recommandé d'utiliser uniquement des vis niquelées ou lubrifiées avec les filets rapportés à frein.

Caractéristiques et avantages

Pendant de nombreuses années, les filets rapportés à spires hélicoïdales ont été largement sous-estimés. L'idée qu'ils étaient destinés à la réparation des filets endommagés donna une image erronée à cette pièce de fixation unique.

Ils sont plus légers et moins chers que tout autre filet rapporté équivalent et, grâce à leur petite taille, ils peuvent généralement être introduits dans des profils existants. En plus d'autres avantages économiques, leur utilisation permet d'augmenter la qualité et les performances tout en réduisant le coût total de production. Leur utilisation permet l'emploi de matériaux plus fins ou plus légers sans renoncer à la résistance des filetages.

Ils protègent les filetages originaux de la perte de filets ou de dimension, la corrosion et l'usure. Les filets rapportés PowerCoil sont fabriqués à partir de fil en acier inoxydable austénitique permettant de travailler jusqu'à une charge de rupture supérieure à 200 000 psi et une dureté de Rc43-50. Les filets rapportés bénéficient d'une finition de surface extrêmement fine qui élimine virtuellement l'érosion du filet causée par le frottement.

Le filet est profilé au diamant et est conçu pour que les vis viennent s'y loger dans les meilleures conditions. Les filets rapportés Power Coil peuvent se poser dans des espaces réduits, permettant de gagner de l'espace et du poids tout en fournissant une résistance élevée.

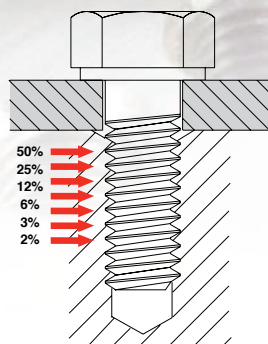
Une large gamme d'outils de pose est disponible pour s'adapter aux techniques particulières de production. Il existe une gamme d'outils manuels pour les petits travaux et réparations ainsi que des outils électriques et pneumatiques pour les besoins de production de gros volume.

Résistance

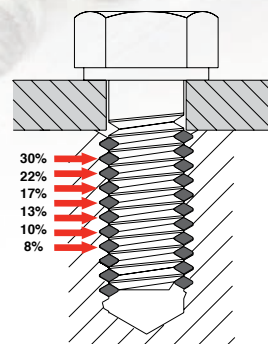
Grâce à leur flexibilité, les filets rapportés génèrent des filetages qui bénéficient d'une distribution de la charge de tension résiduelle nettement améliorée en comparaison avec les trous taraudés conventionnels pour lesquels jusqu'à 70% des forces de cisaillement est exercée par les trois premiers filets. La flexibilité des filets rapportés aide à compenser les erreurs de pas et d'angle de flanc, inhérentes aux taraudages habituels, et améliore nettement la portance en dispersant vers les parois du trou taraudé la pression. Ceci permet de se baser en toute confiance sur la résistance des filets rapportés en utilisant des filets plus petits et plus courts même lorsqu'ils sont utilisés dans des matériaux de faible résistance.

Les filets rapportés Power Coil à haute flexibilité subissent une réduction de diamètre durant leur pose. La force du filet rapporté lors de son expansion dans le trou assure son positionnement. Chaque spire peut se positionner indépendamment pour entrer en contact avec la plus grande partie possible de surface du filetage du matériau récepteur.

Vis avec taraudage standard



Vis avec Filet rapporté PowerCoil



Elimine la tension

Aucune tension n'est introduite à l'intérieur du matériau récepteur du fait qu'il n'existe pas de système d'attache, de blocage, de retenue du filet rapporté dans son emplacement mais le propre "jeu" de ressort du filet rapporté qui le maintient en place et lui permet de ne subir aucune tension externe.

Résistance à l'usure

La combinaison de la dureté du matériel avec la finition brillante des filets rapportés génère des filetages pour lesquels l'usure causée par l'utilisation est virtuellement éliminée. Ceci est particulièrement utile pour les applications qui requièrent des montages et démontages répétés. Le faible coefficient de friction garantit que l'ensemble du couple d'assemblage appliqué est converti en charge de serrage et que, par voie de conséquence les filetages soient maintenus dans les meilleures conditions.

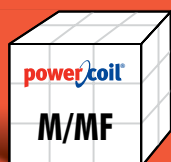
Protection contre la corrosion

Le fil en acier inoxydable austénitique 18/8 utilisé pour les filets rapportés PowerCoil résiste à la corrosion dans des conditions environnementales normales. L'action corrosive d'agents extérieurs à l'intérieur de l'assemblage est réduite, augmentant ainsi la durée de vie de l'union filet rapporté/vis.

La corrosion galvanique est la forme de corrosion la plus importante qui touche les filets rapportés et les pièces de fixation. La corrosion galvanique apparaît lorsque des métaux sont en présence d'une solution électrolytique. Tous les métaux déploient différents degrés d'« activité » ou de « noblesse ». L'or et le platine sont les plus nobles tandis que le zinc et le magnésium sont les plus actifs. La solution électrolytique la plus souvent rencontrée est l'eau ordinaire. L'eau de mer ou la vapeur saline provoque plus de dégâts à cause des concentrations élevées de sel dissous.

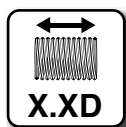
La meilleure façon d'éviter la corrosion galvanique est d'utiliser des métaux similaires et d'éliminer le conducteur électrolytique. Ceci minimise la possibilité d'apparition de la corrosion galvanique lorsqu'ils sont posés dans des matériaux récepteurs comme l'aluminium ou le magnésium. Les précautions supplémentaires à prendre pour réduire la corrosion galvanique sont :

1. Isoler les vis de l'électrolyte. Ceci peut être réalisé à l'aide de joints et de dispositifs d'étanchéité.
2. Utiliser des filets rapportés cadmiés. Le dépôt de cadmium fournit une barrière contre la corrosion. De plus, le dépôt de cadmium a des propriétés lubrifiantes qui minimisent la friction lorsque des vis en acier inoxydable sont utilisées.
3. Appliquer de la pâte ou un mélange inhibiteur de corrosion sur la vis. Ceux-ci incluent le chromate de zinc (MIL-P-8585) et le chromate de strontium (MIL-P-23377). Remarque : la pâte appliquée sur le filet rapporté peut provoquer une perte de tolérance propre. Il est donc recommandé de n'appliquer la pâte que sur la vis et non sur le filet rapporté. Si une pâte au chromate de zinc est appliquée sur le trou taraudé, elle doit être affinée et appliquée avec parcimonie. Le filet rapporté doit être posé lorsque la primaire est encore humide.
4. Appliquer un film de lubrifiant hydrofuge tel que le disulfure de molybdène sur les filets rapportés. Celui-ci fournira une seconde barrière pour lutter contre la corrosion.
5. Si cela est possible ou ne perturbe pas l'assemblage, le joint externe pourra être revêtu d'une peinture appropriée.



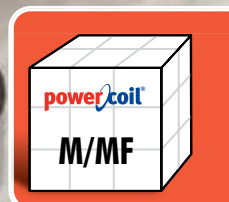
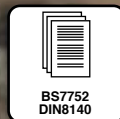
		1.0D				1.5D				2.0D			
		mm	€			mm	€			mm	€		
M/MF	Ref.		<500	500-999	1000-...		<500	500-999	1000-...		<500	500-999	1000-...
M 2 x 0.40	3520-2.00	2.00	0,38	0,36	0,35	3.00	0,39	0,37	0,35	4.00	0,40	0,39	0,38
M 2.20 x 0.45	3520-2.20	2.20	0,38	0,36	0,35	3.30	0,39	0,37	0,35	4.40	0,40	0,39	0,38
M 2.50 x 0.45	3520-2.50	2.50	0,22	0,20	0,17	3.75	0,23	0,20	0,18	5.00	0,26	0,23	0,20
M 3 x 0.50	3520-3.00	3.00	0,22	0,19	0,16	4.50	0,23	0,20	0,18	6.00	0,26	0,21	0,19
M 3.50 x 0.60	3520-3.50	3.50	0,26	0,23	0,21	5.25	0,27	0,26	0,24	7.00	0,29	0,27	0,24
M 4 x 0.70	3520-4.00	4.00	0,21	0,18	0,16	6.00	0,22	0,19	0,16	8.00	0,26	0,21	0,18
M 5 x 0.80	3520-5.00	5.00	0,26	0,21	0,16	7.50	0,21	0,20	0,18	10.00	0,29	0,24	0,19
M 6 x 1.00	3520-6.00	6.00	0,27	0,22	0,18	9.00	0,22	0,20	0,19	12.00	0,33	0,29	0,23
M 7 x 1.00	3520-7.00	7.00	0,30	0,27	0,23	10.50	0,36	0,30	0,22	14.00	0,40	0,35	0,26
M 8 x 1.00	3521-8.00	8.00	0,31	0,29	0,21	12.00	0,33	0,29	0,22	16.00	0,42	0,36	0,26
M 8 x 1.25	3520-8.00	8.00	0,27	0,24	0,21	12.00	0,29	0,24	0,22	16.00	0,40	0,33	0,26
M 9 x 1.25	3520-9.00	9.00	0,40	0,36	0,30	13.50	0,50	0,46	0,32	18.00	0,53	0,47	0,37
M 10 x 1.00	3523-10.00	10.00	0,35	0,31	0,24	15.00	0,40	0,35	0,28	20.00	0,46	0,40	0,32
M 10 x 1.25	3521-10.00	10.00	0,35	0,30	0,23	15.00	0,40	0,35	0,28	20.00	0,46	0,43	0,39
M 10 x 1.50	3520-10.00	10.00	0,35	0,29	0,23	15.00	0,40	0,33	0,24	20.00	0,46	0,39	0,32
M 11 x 1.00	3523-11.00	11.00	0,46	0,41	0,36	16.50	0,70	0,63	0,52	22.00	0,96	0,86	0,71
M 11 x 1.25	3521-11.00	11.00	0,46	0,41	0,36	16.50	0,58	0,56	0,52	22.00	0,96	0,86	0,71
M 11 x 1.50	3520-11.00	11.00	0,60	0,48	0,30	16.50	0,68	0,57	0,47	22.00	0,71	0,63	0,52
M 12 x 1.00	3524-12.00	12.00	0,49	0,47	0,45	18.00	0,59	0,58	0,56	24.00	0,69	0,66	0,60
M 12 x 1.25	3523-12.00	12.00	0,49	0,42	0,30	18.00	0,59	0,47	0,39	24.00	0,69	0,63	0,55
M 12 x 1.50	3521-12.00	12.00	0,49	0,42	0,30	18.00	0,59	0,43	0,39	24.00	0,69	0,63	0,55
M 12 x 1.75	3520-12.00	12.00	0,49	0,41	0,30	18.00	0,59	0,51	0,38	24.00	0,69	0,59	0,49
M 13 x 1.25	3523-13.00	13.00	0,73	0,68	0,60	19.50	1,12	1,05	0,93	26.00	1,52	1,40	1,26
M 13 x 1.50	3521-13.00	13.00	0,73	0,68	0,60	19.50	1,12	1,05	0,93	26.00	1,52	1,40	1,26
M 13 x 1.75	3520-13.00	13.00	0,73	0,68	0,60	19.50	1,12	1,05	0,93	26.00	1,52	1,40	1,26
M 14 x 1.00	3524-14.00	14.00	0,91	0,89	0,86	21.00	0,95	0,91	0,87	28.00	1,09	1,05	0,99
M 14 x 1.25	3523-14.00	14.00	0,76	0,70	0,62	21.00	0,87	0,75	0,56	28.00	0,91	0,85	0,69
M 14 x 1.50	3521-14.00	14.00	0,76	0,66	0,52	21.00	0,87	0,72	0,56	28.00	0,91	0,89	0,79
M 14 x 2.00	3520-14.00	14.00	0,76	0,63	0,49	21.00	0,87	0,79	0,69	28.00	0,91	0,87	0,81





Fabricación en materiales AISI 316, Inconel bajo demanda / Manufactured in AISI 316 or Inconel on request / Fabrication en AISI 316 ou Inconel sur demande.



Ejemplo de Codificación: INSERTO LIBRE
Coding example: THREAD INSERT
Exemple de Codification: FILET RAPPORTÉ

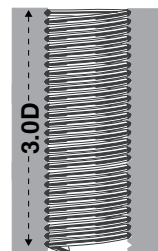
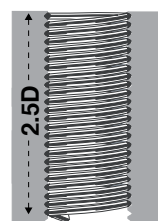
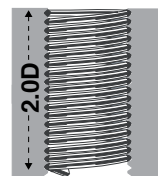
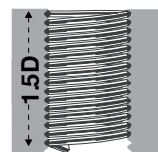
	1.0D	1.5D
M 6 x 1.00	3520-6.00x1.0D	3520-6.00x1.5D

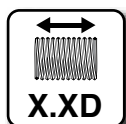
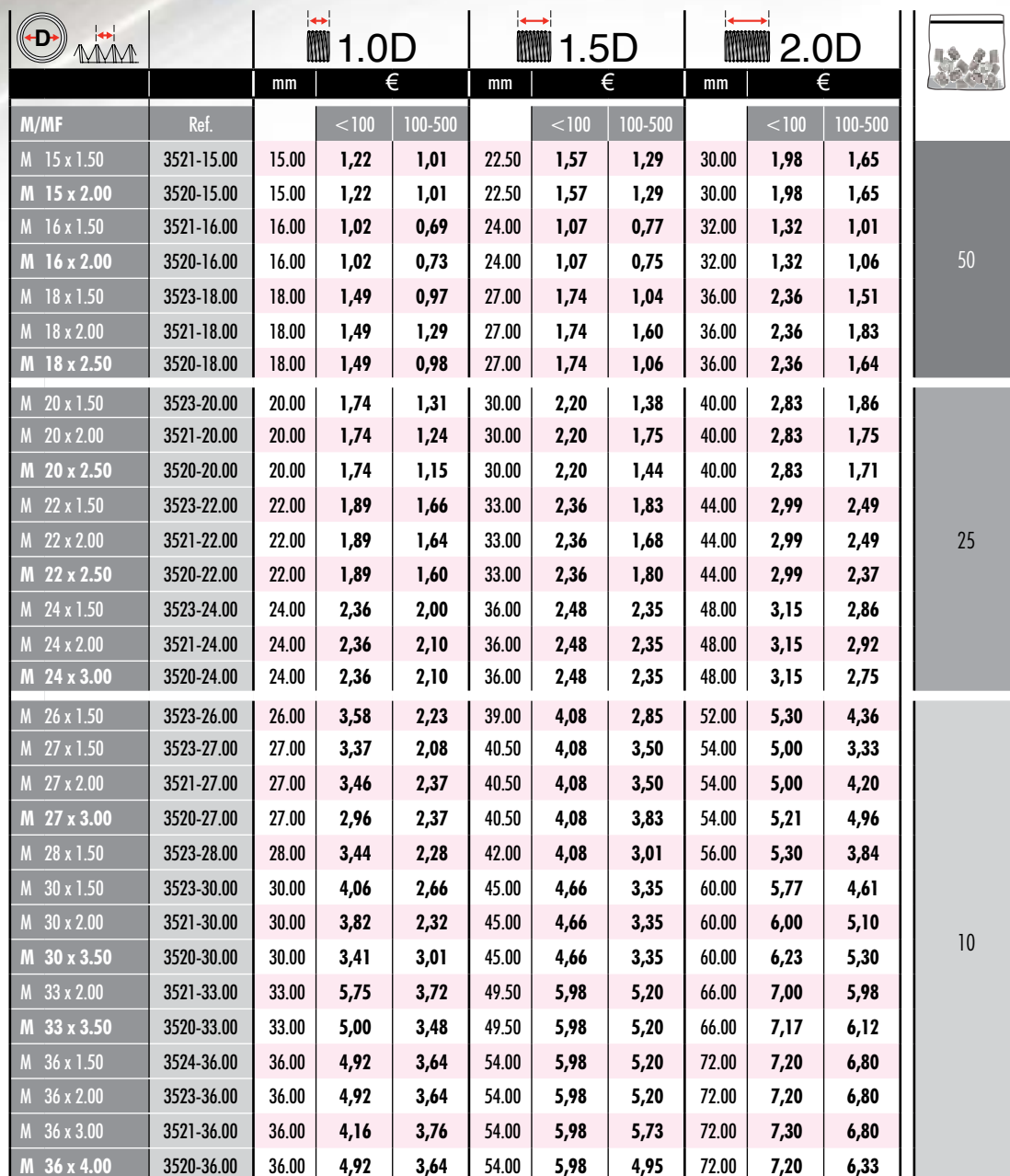
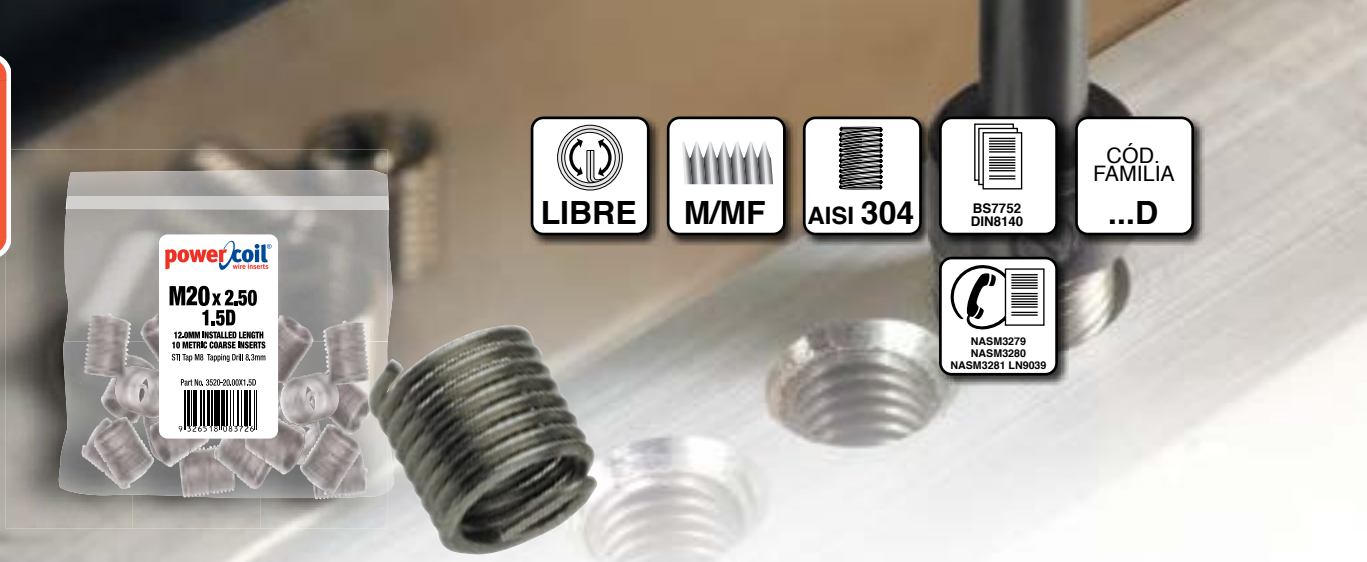



				2.5D			3.0D			
		mm	€			mm	€			
M/MF	Ref.		<500	500-999	1000-...		<500	500-999	1000-...	
M 2 x 0.40	3520-2.00	5.00	0,45	0,42	0,40	6.00	0,49	0,47	0,45	100
M 2.20 x 0.45	3520-2.20	5.50	0,45	0,42	0,40	6.60	0,49	0,47	0,45	
M 2.50 x 0.45	3520-2.50	6.25	0,30	0,27	0,22	7.50	0,36	0,31	0,24	
M 3 x 0.50	3520-3.00	7.50	0,30	0,27	0,22	9.00	0,36	0,31	0,24	
M 3.50 x 0.60	3520-3.50	8.75	0,33	0,30	0,26	10.50	0,40	0,37	0,32	
M 4 x 0.70	3520-4.00	10.00	0,30	0,27	0,22	12.00	0,33	0,29	0,23	
M 5 x 0.80	3520-5.00	12.50	0,35	0,29	0,20	15.00	0,41	0,35	0,23	
M 6 x 1.00	3520-6.00	15.00	0,40	0,37	0,31	18.00	0,49	0,43	0,37	
M 7 x 1.00	3520-7.00	17.50	0,48	0,43	0,38	21.00	0,57	0,55	0,51	
M 8 x 1.00	3521-8.00	20.00	0,50	0,46	0,38	24.00	0,61	0,58	0,53	
M 8 x 1.25	3520-8.00	20.00	0,48	0,43	0,38	24.00	0,57	0,51	0,42	50
M 9 x 1.25	3520-9.00	22.50	0,58	0,53	0,51	27.00	0,69	0,68	0,67	
M 10 x 1.00	3523-10.00	25.00	0,55	0,50	0,42	30.00	0,67	0,61	0,52	
M 10 x 1.25	3521-10.00	25.00	0,55	0,52	0,49	30.00	0,67	0,65	0,61	
M 10 x 1.50	3520-10.00	25.00	0,55	0,49	0,41	30.00	0,67	0,59	0,49	
M 11 x 1.00	3523-11.00	27.50	1,28	1,22	1,15	33.00	1,58	1,51	1,41	
M 11 x 1.25	3521-11.00	27.50	1,28	1,22	1,15	33.00	1,58	1,51	1,41	
M 11 x 1.50	3520-11.00	27.50	0,88	0,81	0,71	33.00	0,99	0,95	0,91	
M 12 x 1.00	3524-12.00	30.00	0,81	0,79	0,75	36.00	0,99	0,95	0,88	
M 12 x 1.25	3523-12.00	30.00	0,81	0,79	0,75	36.00	0,99	0,93	0,87	
M 12 x 1.50	3521-12.00	30.00	0,81	0,79	0,75	36.00	0,99	0,93	0,87	
M 12 x 1.75	3520-12.00	30.00	0,81	0,78	0,71	36.00	0,99	0,93	0,87	
M 13 x 1.25	3523-13.00	32.50	2,05	1,89	1,69	39.00	2,36	2,18	1,95	
M 13 x 1.50	3521-13.00	32.50	2,05	1,89	1,69	39.00	2,36	2,18	1,95	
M 13 x 1.75	3520-13.00	32.50	2,05	1,89	1,69	39.00	2,36	2,18	1,95	
M 14 x 1.00	3524-14.00	35.00	1,31	1,25	0,90	42.00	1,71	1,44	1,02	
M 14 x 1.25	3523-14.00	35.00	1,08	1,02	0,81	42.00	1,32	1,16	0,91	
M 14 x 1.50	3521-14.00	35.00	1,08	1,01	0,91	42.00	1,32	1,21	1,06	
M 14 x 2.00	3520-14.00	35.00	1,08	1,04	1,01	42.00	1,32	1,26	1,16	

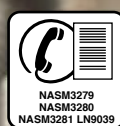
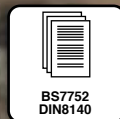







← 1.0D →





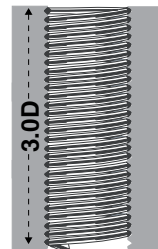
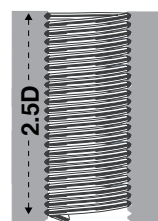
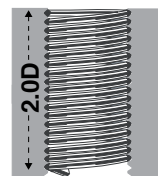
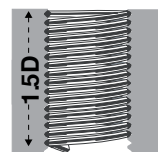
	 1.0D	 1.5D
M 15 x 1.50	3520-15.00x1.0D	3520-15.00x1.5D




			 2.5D		 3.0D		
			mm	€	mm	€	
M/MF	Ref.		<100	100-500	<100	100-500	
M 15 x 1.50	3521-15.00	37.50	2,44	2,03	45.00	2,83	50
M 15 x 2.00	3520-15.00	37.50	2,44	2,03	45.00	2,83	
M 16 x 1.50	3521-16.00	40.00	1,45	1,24	48.00	1,71	
M 16 x 2.00	3520-16.00	40.00	1,45	1,31	48.00	1,71	
M 18 x 1.50	3523-18.00	45.00	2,68	1,67	54.00	3,15	
M 18 x 2.00	3521-18.00	45.00	2,68	2,15	54.00	3,15	
M 18 x 2.50	3520-18.00	45.00	2,68	1,81	54.00	3,15	25
M 20 x 1.50	3523-20.00	50.00	3,15	1,97	60.00	3,62	
M 20 x 2.00	3521-20.00	50.00	3,15	2,26	60.00	3,62	
M 20 x 2.50	3520-20.00	50.00	3,15	1,95	60.00	3,62	
M 22 x 1.50	3523-22.00	55.00	3,42	2,65	66.00	4,12	
M 22 x 2.00	3521-22.00	55.00	3,42	2,65	66.00	4,12	
M 22 x 2.50	3520-22.00	55.00	3,42	2,53	66.00	4,12	10
M 24 x 1.50	3523-24.00	60.00	4,13	3,44	72.00	4,41	
M 24 x 2.00	3521-24.00	60.00	4,13	3,52	72.00	4,41	
M 24 x 3.00	3520-24.00	60.00	4,13	3,31	72.00	4,41	
M 26 x 1.50	3523-26.00	65.00	7,09	4,39	78.00	8,86	
M 27 x 1.50	3523-27.00	67.50	6,49	3,72	81.00	7,66	
M 27 x 2.00	3521-27.00	67.50	5,90	3,72	81.00	6,96	5
M 27 x 3.00	3520-27.00	67.50	6,14	4,39	81.00	7,25	
M 28 x 1.50	3523-28.00	70.00	7,62	4,50	84.00	9,15	
M 30 x 1.50	3523-30.00	75.00	7,76	4,65	90.00	9,30	
M 30 x 2.00	3521-30.00	75.00	6,90	5,22	90.00	7,94	
M 30 x 3.50	3520-30.00	75.00	6,86	5,20	90.00	7,55	
M 33 x 2.00	3521-33.00	82.50	7,70	4,93	99.00	8,47	2
M 33 x 3.50	3520-33.00	82.50	8,98	5,75	99.00	10,12	
M 36 x 1.50	3524-36.00	90.00	9,42	7,01	108.00	10,37	
M 36 x 2.00	3523-36.00	90.00	8,88	6,61	108.00	9,73	
M 36 x 3.00	3521-36.00	90.00	8,75	6,42	108.00	9,64	
M 36 x 4.00	3520-36.00	90.00	10,14	6,69	108.00	13,07	

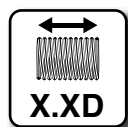


1.0D



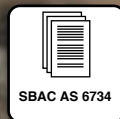




		 1.0D				 1.5D				 2.0D			
		"	€			"	€			"	€		
UNC	Ref.		<500	500-999	1000-...		<500	500-999	1000-...		<500	500-999	1000-...
UNC N°2 - 56	3532-2G	0.09	0,71	0,63	0,50	0.13	0,83	0,73	0,59	0.17	1,08	0,96	0,76
UNC N°3 - 48	3532-3G	0.10	0,52	0,48	0,43	0.15	0,56	0,51	0,46	0.20	0,59	0,55	0,49
UNC N°4 - 40	3532-4G	0.11	0,28	0,24	0,20	0.17	0,27	0,23	0,18	0.22	0,28	0,24	0,20
UNC N°5 - 40	3532-5G	0.13	0,29	0,26	0,20	0.19	0,30	0,27	0,21	0.25	0,32	0,29	0,22
UNC N°6 - 32	3532-6G	0.14	0,22	0,20	0,17	0.21	0,24	0,22	0,18	0.28	0,27	0,23	0,20
UNC N°8 - 32	3532-8G	0.16	0,22	0,20	0,17	0.25	0,24	0,22	0,18	0.33	0,27	0,23	0,20
UNC N°10 - 24	3532-10G	0.19	0,28	0,24	0,20	0.29	0,28	0,24	0,20	0.38	0,30	0,27	0,21
UNC N°12 - 24	3532-12G	0.22	0,29	0,26	0,20	0.32	0,32	0,29	0,22	0.43	0,35	0,31	0,24
UNC 1/4 - 20	3532-1/4	0.25	0,29	0,26	0,20	0.38	0,32	0,29	0,22	0.50	0,35	0,31	0,24
UNC 5/16 - 18	3532-5/16	0.31	0,39	0,33	0,27	0.47	0,47	0,41	0,32	0.62	0,49	0,43	0,35
UNC 3/8 - 16	3532-3/8	0.38	0,59	0,52	0,41	0.57	0,59	0,52	0,41	0.76	0,78	0,68	0,55
UNC 7/16 - 14	3532-7/16	0.44	0,66	0,58	0,46	0.66	0,79	0,70	0,56	0.88	0,90	0,79	0,63
UNC 1/2 - 13	3532-1/2	0.50	0,71	0,62	0,50	0.75	0,79	0,70	0,56	1.00	0,90	0,79	0,63
UNC 9/16 - 12	3532-9/16	0.56	2,30	2,03	1,61	0.84	3,06	2,69	2,14	1.12	3,93	3,46	2,75
UNC 5/8 - 11	3532-5/8	0.63	2,08	1,83	1,46	0.95	2,78	2,45	1,95	1.26	3,46	3,05	2,43
UNC 3/4 - 10	3532-3/4	0.75	2,43	2,13	1,69	1.13	3,28	2,89	2,30	1.50	4,10	3,61	2,87
UNC 7/8 - 9	3532-7/8	0.88	3,22	2,83	2,25	1.32	4,82	4,24	3,37	1.76	6,12	5,39	4,29
UNC 1 - 8	3532-1	1.00	3,22	2,83	2,25	1.50	4,82	4,24	3,37	2.00	6,12	5,39	4,29
UNC 1.1/8 - 7	3532-1.1/8	1.13	4,62	4,06	3,24	1.69	7,80	6,87	5,46	2.25	6,33	5,58	4,44
UNC 1.1/4 - 7	3532-1.1/4	1.25	5,03	4,42	3,52	1.88	8,57	7,54	6,00	2.50	7,21	6,34	5,05
UNC 1.3/8 - 6	3532-1.3/8	1.38	5,52	4,85	3,86	2.07	9,48	8,35	6,63	2.75	8,08	7,11	5,65
UNC 1.1/2 - 6	3532-1.1/2	1.50	6,39	5,62	4,47	2.25	11,01	9,69	7,71	3.00	10,16	8,94	7,11

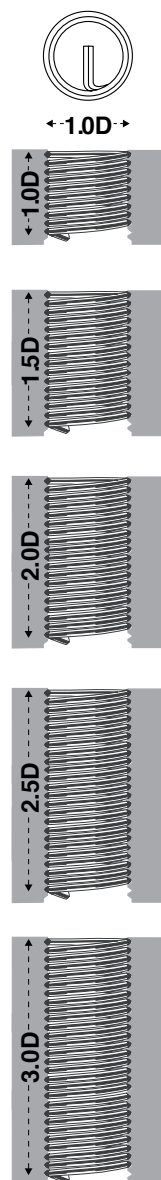


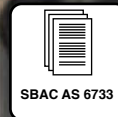
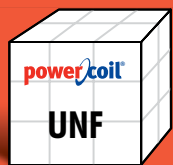
Ejemplo de Codificación: INSERTO LIBRE
Coding example: THREAD INSERT
Exemple de Codification: FILET RAPPORTÉ





	1.0D	1.5D
UNC 1/4 - 20	3532-1/4x1.0D	3532-1/4x1.5D

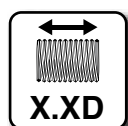


			 2.5D			 3.0D			
			"	€		"	€		
UNC	Ref.		<500	500-999	1000-...	<500	500-999	1000-...	
UNC N°2 - 56	3532-2G	0.22	1,22	1,08	0,86	0.26	1,52	1,35	1,07
UNC N°3 - 48	3532-3G	0.25	0,62	0,57	0,51	0.30	0,69	0,63	0,57
UNC N°4 - 40	3532-4G	0.38	0,32	0,29	0,22	0.34	0,39	0,33	0,27
UNC N°5 - 40	3532-5G	0.31	0,39	0,33	0,27	0.38	0,47	0,41	0,32
UNC N°6 - 32	3532-6G	0.35	0,29	0,26	0,21	0.41	0,35	0,30	0,23
UNC N°8 - 32	3532-8G	0.41	0,29	0,26	0,21	0.49	0,35	0,30	0,23
UNC N°10 - 24	3532-10G	0.48	0,37	0,32	0,26	0.57	0,45	0,39	0,31
UNC N°12 - 24	3532-12G	0.54	0,42	0,38	0,30	0.65	0,52	0,46	0,37
UNC 1/4 - 20	3532-1/4	0.63	0,42	0,38	0,30	0.75	0,52	0,46	0,37
UNC 5/16 - 18	3532-5/16	0.78	0,59	0,51	0,41	0.93	0,71	0,62	0,50
UNC 3/8 - 16	3532-3/8	0.95	0,89	0,78	0,62	1.14	1,06	0,93	0,75
UNC 7/16 - 14	3532-7/16	1.10	1,08	0,95	0,76	1.32	1,32	1,16	0,92
UNC 1/2 - 13	3532-1/2	1.25	1,08	0,95	0,76	1.50	1,32	1,16	0,92
UNC 9/16 - 12	3532-9/16	1.40	4,50	3,96	3,15	1.68	5,43	4,77	3,80
UNC 5/8 - 11	3532-5/8	1.58	4,14	3,65	2,90	1.89	4,94	4,34	3,46
UNC 3/4 - 10	3532-3/4	1.88	4,86	4,29	3,41	2.25	5,83	5,13	4,08
UNC 7/8 - 9	3532-7/8	2.20	7,23	6,37	5,06	2.64	8,78	7,72	6,14
UNC 1 - 8	3532-1	2.50	7,23	6,37	5,06	3.00	8,78	7,72	6,14
UNC 1.1/8 - 7	3532-1.1/8	2.81	7,90	6,95	5,53	3.38	8,79	7,74	6,15
UNC 1.1/4 - 7	3532-1.1/4	3.13	9,04	7,95	6,32	3.75	10,17	8,95	7,12
UNC 1.3/8 - 6	3532-1.3/8	3.44	10,21	8,98	7,15	4.13	11,13	9,79	7,79
UNC 1.1/2 - 6	3532-1.1/2	3.75	13,28	11,68	9,29	4.50	15,11	13,30	10,57



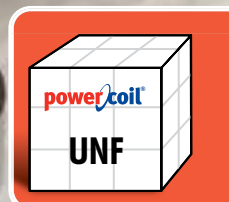
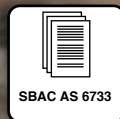






		 1.0D				 1.5D				 2.0D			
		"	€			"	€			"	€		
UNF	Ref.		<500	500-999	1000-...		<500	500-999	1000-...		<500	500-999	1000-...
UNF N°3 - 56	3534-3G	0.10	0,63	0,57	0,49	0.15	0,67	0,62	0,56	0.20	0,70	0,66	0,59
UNF N°4 - 48	3534-4G	0.11	0,63	0,57	0,45	0.17	0,72	0,63	0,51	0.22	0,97	0,86	0,68
UNF N°6 - 40	3534-6G	0.14	0,63	0,57	0,45	0.21	0,72	0,63	0,51	0.28	0,97	0,86	0,68
UNF N°8 - 36	3534-8G	0.16	0,63	0,57	0,45	0.25	0,72	0,63	0,51	0.33	0,97	0,86	0,68
UNF N°10 - 32	3534-10G	0.19	0,28	0,24	0,19	0.29	0,29	0,26	0,20	0.38	0,35	0,30	0,24
UNF N°12 - 28	3534-12G	0.22	0,46	0,41	0,38	0.32	0,48	0,45	0,40	0.43	0,50	0,47	0,42
UNF 1/4 - 28	3534-1/4	0.25	0,28	0,24	0,19	0.38	0,29	0,26	0,20	0.50	0,35	0,30	0,24
UNF 5/16 - 24	3534-5/16	0.31	0,38	0,33	0,27	0.47	0,41	0,36	0,29	0.62	0,49	0,42	0,33
UNF 3/8 - 24	3534-3/8	0.38	0,57	0,49	0,39	0.57	0,59	0,51	0,41	0.76	0,71	0,62	0,50
UNF 7/16 - 20	3534-7/16	0.44	0,70	0,61	0,49	0.66	0,79	0,69	0,55	0.88	0,89	0,78	0,62
UNF 1/2 - 20	3534-1/2	0.50	0,70	0,61	0,49	0.75	0,79	0,69	0,55	1.00	0,89	0,78	0,62
UNF 9/16 - 18	3534-9/16	0.56	1,65	1,46	1,16	0.84	1,65	1,46	1,16	1.12	1,98	1,75	1,39
UNF 5/8 - 18	3534-5/8	0.63	1,65	1,46	1,16	0.95	1,65	1,46	1,16	1.26	1,98	1,75	1,39
UNF 3/4 - 16	3534-3/4	0.75	2,73	2,39	1,90	1.13	3,78	3,33	2,65	1.50	4,57	4,03	3,21
UNF 7/8 - 14	3534-7/8	0.88	3,70	3,25	2,58	1.32	5,45	4,80	3,82	1.76	6,93	6,10	4,85
UNF 1 - 12	3534-1	1.00	3,70	3,25	2,58	1.50	5,45	4,80	3,82	2.00	6,93	6,10	4,85
UNF 1 - 14	3535-1	1.00	3,84	3,37	2,68	1.50	5,67	4,99	3,96	2.00	7,21	6,34	5,04
UNF 1.1/8 - 12	3534-1.1/8	1.13	5,29	4,65	3,71	1.70	7,72	6,80	5,41	2.25	7,26	6,39	5,08
UNF 1.1/4 - 12	3534-1.1/4	1.25	5,75	5,06	4,03	1.88	8,47	7,46	5,93	2.50	8,26	7,27	5,78
UNF 1.3/8 - 12	3534-1.3/8	1.38	6,31	5,55	4,42	2.07	9,38	8,26	6,57	2.75	9,25	8,15	6,48
UNF 1.1/2 - 12	3534-1.1/2	1.50	7,31	6,44	5,12	2.25	10,90	9,59	7,62	3.00	11,63	10,24	8,15



Ejemplo de Codificación: INSERTO LIBRE
Coding example: THREAD INSERT
Exemple de Codification: FILET RAPPORTÉ

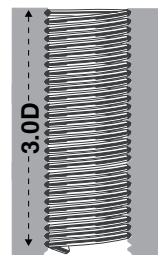
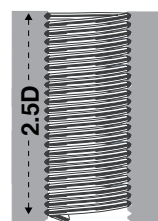
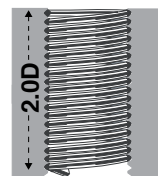
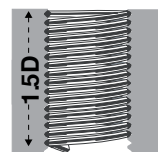
	1.0D	1.5D
UNF N°3 - 56	3534-3Gx1.0D	3534-3Gx1.5D

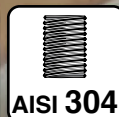


		 2.5D				 3.0D				
		"	€			"	€			
UNF	Ref.		<500	500-999	1000-...		<500	500-999	1000-...	
UNF N°3 - 56	3534-3G	0.25	0,75	0,69	0,62	0.30	0,82	0,77	0,69	100
UNF N°4 - 48	3534-4G	0.28	1,07	0,95	0,75	0.34	1,38	1,21	0,97	
UNF N°6 - 40	3534-6G	0.35	1,11	0,98	0,78	0.41	1,38	1,21	0,97	
UNF N°8 - 36	3534-8G	0.41	1,11	0,98	0,78	0.49	1,38	1,21	0,97	
UNF N°10 - 32	3534-10G	0.48	0,45	0,39	0,31	0.57	0,52	0,46	0,37	
UNF N°12 - 28	3534-12G	0.54	0,53	0,49	0,45	0.65	0,59	0,55	0,49	
UNF 1/4 - 28	3534-1/4	0.63	0,45	0,39	0,31	0.75	0,52	0,46	0,37	
UNF 5/16 - 24	3534-5/16	0.78	0,60	0,53	0,42	0.93	0,71	0,62	0,50	
UNF 3/8 - 24	3534-3/8	0.95	0,90	0,79	0,63	1.14	1,06	0,93	0,75	
UNF 7/16 - 20	3534-7/16	1.10	1,10	0,97	0,78	1.32	1,32	1,16	0,92	
UNF 1/2 - 20	3534-1/2	1.25	1,10	0,97	0,78	1.50	1,32	1,16	0,92	50
UNF 9/16 - 18	3534-9/16	1.40	2,52	2,21	1,76	1.68	2,82	2,48	1,97	
UNF 5/8 - 18	3534-5/8	1.58	2,36	2,08	1,66	1.89	2,82	2,48	1,97	
UNF 3/4 - 16	3534-3/4	1.88	5,77	5,08	4,03	2.25	6,71	5,91	4,70	25
UNF 7/8 - 14	3534-7/8	2.20	8,28	7,29	5,80	2.64	9,65	8,49	6,76	
UNF 1 - 12	3534-1	2.50	8,28	7,29	5,80	3.00	9,65	8,49	6,76	
UNF 1 - 14	3535-1	2.50	8,28	7,29	5,80	3.00	9,93	8,74	6,95	10
UNF 1.1/8 - 12	3534-1.1/8	2.81	9,04	7,96	6,33	3.38	10,07	8,86	7,05	
UNF 1.1/4 - 12	3534-1.1/4	3.13	10,34	9,10	7,23	3.75	11,64	10,25	8,15	
UNF 1.3/8 - 12	3534-1.3/8	3.44	11,69	10,28	8,18	4.13	12,74	11,21	8,92	
UNF 1.1/2 - 12	3534-1.1/2	3.75	15,19	13,37	10,64	4.50	17,30	15,23	12,11	



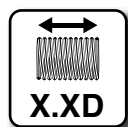
← 1.0D →





		1.0D				1.5D				2.0D			
		"	€			"	€			"	€		
BSW	Ref.		<500	500-999	1000-...		<500	500-999	1000-...		<500	500-999	1000-...
BSW 1/8 - 40	3528-1/8	0.13	0,83	0,72	0,57	0.20	0,93	0,82	0,65	0.26	1,47	1,29	1,03
BSW 3/16 - 24	3528-3/16	0.19	0,83	0,72	0,57	0.29	0,93	0,83	0,66	0.38	1,46	1,28	1,02
BSW 1/4 - 20	3528-1/4	0.25	0,35	0,31	0,24	0.38	0,38	0,34	0,27	0.50	0,45	0,39	0,31
BSW 5/16 - 18	3528-5/16	0.31	0,41	0,36	0,29	0.47	0,47	0,41	0,33	0.62	0,51	0,45	0,36
BSW 3/8 - 16	3528-3/8	0.38	0,72	0,64	0,50	0.57	0,77	0,68	0,54	0.76	0,91	0,80	0,64
BSW 7/16 - 14	3528-7/16	0.44	0,88	0,77	0,61	0.66	0,96	0,85	0,68	0.88	1,11	0,98	0,77
BSW 1/2 - 12	3528-1/2	0.50	0,88	0,77	0,61	0.75	0,96	0,85	0,68	1.00	1,11	0,98	0,77
BSW 9/16 - 12	3528-9/16	0.56	2,19	1,93	1,54	0.84	3,07	2,70	2,15	1.12	3,60	3,17	2,52
BSW 5/8 - 11	3528-5/8	0.63	2,19	1,93	1,54	0.95	3,07	2,70	2,15	1.26	3,60	3,17	2,52
BSW 3/4 - 10	3528-3/4	0.75	2,84	2,49	1,98	1.13	3,66	3,21	2,55	1.50	4,45	3,92	3,12
BSW 7/8 - 9	3528-7/8	0.88	3,66	3,21	2,55	1.32	5,11	4,49	3,58	1.76	6,38	5,62	4,46
BSW 1 - 8	3528-1	1.00	3,94	3,48	2,77	1.50	5,84	5,14	4,09	2.00	6,38	5,62	4,46






		2.5D				3.0D			
		"	€			"	€		
BSW	Ref.		<500	500-999	1000-...		<500	500-999	1000-...
BSW 1/8 - 40	3528-1/8	0.33	1,67	1,47	1,18	0.39	1,76	1,55	1,23
BSW 3/16 - 24	3528-3/16	0.48	1,65	1,45	1,16	0.57	1,77	1,56	1,24
BSW 1/4 - 20	3528-1/4	0.63	0,58	0,51	0,41	0.75	0,63	0,55	0,43
BSW 5/16 - 18	3528-5/16	0.78	0,61	0,54	0,43	0.93	0,74	0,66	0,52
BSW 3/8 - 16	3528-3/8	0.95	1,07	0,94	0,75	1.14	1,28	1,13	0,90
BSW 7/16 - 14	3528-7/16	1.10	1,31	1,16	0,92	1.32	1,61	1,42	1,12
BSW 1/2 - 12	3528-1/2	1.25	1,31	1,16	0,92	1.50	1,61	1,42	1,12
BSW 9/16 - 12	3528-9/16	1.40	4,29	3,78	3,01	1.68	5,26	4,62	3,68
BSW 5/8 - 11	3528-5/8	1.58	4,29	3,78	3,01	1.89	5,26	4,62	3,68
BSW 3/4 - 10	3528-3/4	1.88	5,34	4,71	3,74	2.25	6,40	5,64	4,48
BSW 7/8 - 9	3528-7/8	2.20	7,69	6,76	5,37	2.64	9,21	8,10	6,44
BSW 1 - 8	3528-1	2.50	7,69	6,76	5,37	3.00	9,21	8,10	6,44



Ejemplo de Codificación: INSERTO LIBRE
Coding example: THREAD INSERT
Exemple de Codification: FILET RAPPORTÉ

	1.0D	1.5D
BSW 1/8 - 40	3528-1/8x1.0D	3528-1/8x1.5D

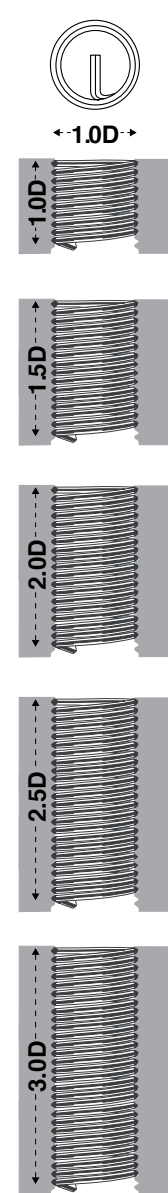





		 1.0D			 1.5D			 2.0D			
		"	€		"	€		"	€		
BSF	Ref.		≤ 100	101-500		≤ 100	101-500		≤ 100	101-500	
BSF 3/16 - 32	3530-3/16	0.19	0,82	0,57	0.29	0,95	0,67	0.38	1,49	1,05	
BSF 1/4 - 26	3530-1/4	0.25	0,36	0,25	0.38	0,39	0,28	0.50	0,46	0,32	
BSF 5/16 - 22	3530-5/16	0.31	0,39	0,28	0.47	0,48	0,34	0.62	0,52	0,36	
BSF 3/8 - 20	3530-3/8	0.38	0,73	0,51	0.57	0,80	0,55	0.76	0,93	0,65	
BSF 7/16 - 18	3530-7/16	0.44	0,89	0,63	0.66	0,99	0,69	0.88	1,13	0,80	
BSF 1/2 - 16	3530-1/2	0.50	0,89	0,63	0.75	0,99	0,69	1.00	1,13	0,80	
BSF 9/16 - 16	3530-9/16	0.56	2,25	1,57	0.84	2,99	2,09	1.12	3,69	2,58	
BSF 5/8 - 14	3530-5/8	0.63	2,25	1,57	0.95	2,99	2,09	1.26	3,69	2,58	
BSF 3/4 - 12	3530-3/4	0.75	2,90	2,04	1.13	3,73	2,62	1.50	4,56	3,19	
BSF 7/8 - 11	3530-7/8	0.88	3,73	2,62	1.32	5,23	3,66	1.76	6,53	4,57	
BSF 1 - 10	3530-1	1.00	3,73	2,62	1.50	5,23	3,66	2.00	6,53	4,57	

100

50

25

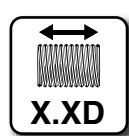


			 2.5D		 3.0D		
	Ref.	"	€	"	€	"	
BSF	Ref.		≤100	101-500	≤100	101-500	
BSF 3/16 - 32	3530-3/16	0.48	1,69	1,19	0.57	1,81	1,26
BSF 1/4 - 26	3530-1/4	0.63	0,54	0,37	0.75	0,64	0,45
BSF 5/16 - 22	3530-5/16	0.78	0,64	0,45	0.93	0,76	0,53
BSF 3/8 - 20	3530-3/8	0.95	1,09	0,76	1.14	1,31	0,92
BSF 7/16 - 18	3530-7/16	1.10	1,35	0,94	1.32	1,64	1,16
BSF 1/2 - 16	3530-1/2	1.25	1,35	0,94	1.50	1,64	1,16
BSF 9/16 - 16	3530-9/16	1.40	4,39	3,07	1.68	5,37	3,76
BSF 5/8 - 14	3530-5/8	1.58	4,39	3,07	1.89	5,37	3,76
BSF 3/4 - 12	3530-3/4	1.88	5,47	3,83	2.25	6,55	4,59
BSF 7/8 - 11	3530-7/8	2.20	7,85	5,50	2.64	9,41	6,59
BSF 1 - 10	3530-1	2.50	7,85	5,50	3.00	9,41	6,59









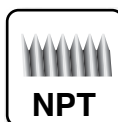
	 1.0D	 1.5D
BSF 3/16 - 32	3530-3/16x1.0D	3530-3/16x1.5D




Ejemplo de Codificación: INSERTO LIBRE
Coding example: THREAD INSERT
Exemple de Codification: FILET RAPPORTÉ

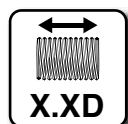




		 1.0D			 1.5D			 2.0D			
		"	€		"	€		"	€		
BSP	Ref.		≤ 100	101-500		≤ 100	101-500		≤ 100	101-500	
BSP 1/8 - 28	3546-1/8	0.13	0,48	0,40	0.19	0,69	0,58	0.25	0,76	0,65	100
BSP 1/4 - 19	3546-1/4	0.25	0,65	0,55	0.38	0,94	0,81	0.50	1,06	0,90	
BSP 3/8 - 19	3546-3/8	0.38	0,58	0,50	0.56	1,07	0,91	0.75	1,21	1,03	
BSP 1/2 - 14	3546-1/2	0.50	1,01	0,85	0.75	1,54	1,30	1.00	1,62	1,38	50
BSP 5/8 - 14	3546-5/8	0.63	2,33	1,98	0.94	3,43	2,92	1.25	3,58	3,04	
BSP 3/4 - 14	3546-3/4	0.75	2,33	1,98	1.13	3,43	2,92	1.50	3,58	3,04	
BSP 7/8 - 14	3546-7/8	0.88	5,99	5,09	1.32	10,53	8,95	1.75	13,12	11,16	25
BSP 1 - 11	3546-1	1.00	6,72	5,71	1.50	10,53	8,95	2.00	10,63	9,03	



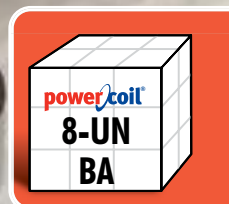
			1.5D		
		"	€		
NPT	Ref.		≤ 100	101-500	
NPT 1/8 - 27	3552-1/8	0.188	0,98	0,68	100
NPT 1/4 - 18	3552-1/4	0.375	1,41	0,99	
NPT 3/8 - 18	3552-3/8	0.563	1,78	1,25	
NPT 1/2 - 14	3552-1/2	0.750	2,92	2,04	50
NPT 3/4 - 14	3552-3/4	1.125	4,20	2,94	
NPT 1 - 11.1/2	3552-1	1.500	5,63	3,94	25



Ejemplo de Codificación: INSERTO LIBRE
Coding example: THREAD INSERT
Exemple de Codification: FILET RAPPORTÉ

	1.0D	1.5D
BSP 1/8 - 28	3546-1/8x1.0D	3546-1/8x1.5D

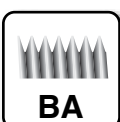
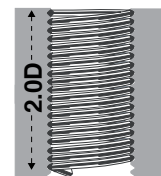
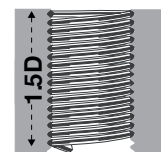
	1.5D
NPT 1/8 - 27	3552-1/8x1.5D



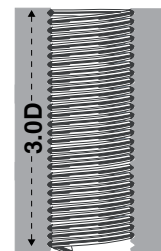
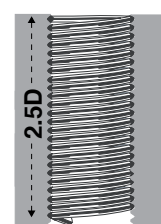
			1.0D			1.5D			2.0D			
			"	€		"	€		"	€		
8 - UN	Ref.		≤100	101-500		≤100	101-500		≤100	101-500		
UN 1.1/8 - 8	3570-1.1/8	1.13	8,83	6,18	1.69	10,41	7,28	2.25	11,11	7,78		10
UN 1.1/4 - 8	3570-1.1/4	1.25	10,58	7,40	1.88	12,77	8,95	2.50	14,46	10,12		
UN 1.3/8 - 8	3570-1.3/8	1.38	11,95	8,36	2.06	15,88	11,12	2.75	17,48	12,23		
UN 1.1/2 - 8	3570-1.1/2	1.50	13,33	9,34	2.25	17,70	12,39	3.00	20,75	14,52		
UN 1.5/8 - 8	3570-1.5/8	1.63	14,60	10,22	2.44	18,77	13,14	3.25	23,14	16,20		
UN 1.3/4 - 8	3570-1.3/4	1.75	15,83	11,08	2.63	20,39	14,28	3.50	23,46	16,42		
UN 1.7/8 - 8	3570-1.7/8	1.88	17,09	11,96	2.81	21,88	15,32	3.75	27,01	18,91		
UN 2 - 8	3570-2	2.00	18,29	12,80	3.00	23,50	16,45	4.00	28,94	20,26		



← 1.0D →



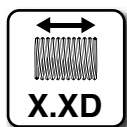
			1.0D			1.5D			2.0D			
			"	€		"	€		"	€		
BA	Ref.		≤100	101-500		≤100	101-500		≤100	101-500		
BA 0	3544-0	0.24	2,18	1,53	0.35	2,88	2,01	0.47	3,47	2,43		100
BA 2	3544-2	0.19	1,13	0,80	0.28	1,26	0,89	0.37	1,39	0,98		
BA 4	3544-4	0.14	1,13	0,80	0.21	1,26	0,89	0.28	1,39	0,98		
BA 6	3544-6	0.11	1,13	0,80	0.17	1,26	0,89	0.22	1,39	0,98		



			2.5D			3.0D			
			"	€		"	€		
BA	Ref.		≤100	101-500		≤100	101-500		
BA 0	3544-0	0.59	3,99	2,79	0.71	4,59	3,21		100
BA 2	3544-2	0.46	1,64	1,16	0.56	1,77	1,24		
BA 4	3544-4	0.35	1,64	1,16	0.43	1,77	1,24		
BA 6	3544-6	0.28	1,64	1,16	0.33	1,77	1,24		

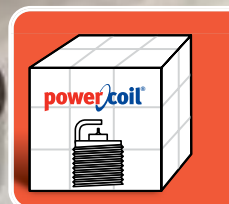




			1.0D			1.5D			2.0D			
			"	€		"	€		"	€		
BSB	Ref.			≤ 100	101-500		≤ 100	101-500		≤ 100	101-500	
BSB 1/4 - 26	3560-1/4	0.250		1,34	0,93	0.375	1,84	1,29	0.500	1,84	1,29	
BSB 5/16 - 26	3560-5/16	0.313		0,60	0,42	0.469	0,72	0,51	0.625	0,96	0,67	
BSB 3/8 - 26	3560-3/8	0.375		0,70	0,49	0.563	0,84	0,59	0.750	1,13	0,80	
BSB 7/16 - 26	3560-7/16	0.438		0,74	0,52	0.656	1,13	0,80	0.875	1,55	1,08	
BSB 1/2 - 26	3560-1/2	0.500		1,51	1,06	0.750	1,92	1,35	1.000	2,44	1,71	



Ejemplo de Codificación: INSERTO LIBRE
Coding example: THREAD INSERT
Exemple de Codification: FILET RAPPORTÉ

	1.0D	1.5D
BSB 1/2 - 26	3560-1/2x1.0D	3560-1/2x1.5D






		 8.40mm		 12.40mm		 16.40mm		
		€		€		€		
	Ref.	≤ 100	101-500	≤ 100	101-500	≤ 100	101-500	
14x1.25	3522-14.00	0,81	0,67	0,81	0,68	0,81	0,71	50

			1/2"			3/4"		
		€			€			
	Ref.	≤ 100	101-500		≤ 100	101-500		
10x1.00	3522-10.00	0,41	0,33		-	-	100	
12x1.25	3522-12.00	0,48	0,38		0,59	0,48		
14x1.25	3522-14.00	0,71	0,57		1,08	0,86	50	
18x1.50	3522-18.00	0,95	0,76		-	-		



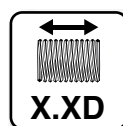
BUJ A
SPARK PLUG
BOUGIE

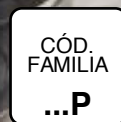
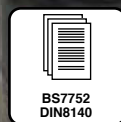
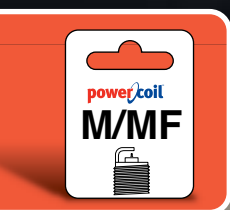


			0.339"			3/8"			7/16"		
		€			€			€			
	Ref.	≤100	101-500		≤100	101-500		≤100	101-500		
10x1.00	3522-10.00	0,34	0,28		-	-		-	-	100	
14x1.25	3522-14.00	-	-		0,76	0,61		0,71	0,57	50	

14x1.25	3522-14.00x8.40	3522-14.00x1/2

Ejemplo de Codificaci n: INSERTO LIBRE
Coding example: THREAD INSERT
Exemple de Codification: FILET RAPPORT 

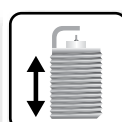




		€	D	mm	Unit				
M/MF	Ref.					mm			
M 3 x 0.50	3520-3.00X1.5DP	2,68	1.5	4.50	10	3.20	3520-3.00I	3500-HIT4	3500-TB4
M 4 x 0.70	3520-4.00X1.5DP	2,59	1.5	6.00	10	4.20	3520-4.00I	3500-HIT6	3500-TB6
M 5 x 0.80	3520-5.00X1.5DP	2,38	1.5	7.50	10	5.20	3520-5.00I	3500-HIT8	3500-TB8
M 6 x 1.00	3520-6.00X1.0DP	3,11	1.0	6.00	10	6.30	3520-6.00I	3500-HIT9	3500-TB9
M 6 x 1.00	3520-6.00X1.5DP	2,67	1.5	9.00	10	6.30	3520-6.00I	3500-HIT9	3500-TB9
M 6 x 1.00	3520-6.00X2.0DP	3,83	2.0	12.00	10	6.30	3520-6.00I	3500-HIT9	3500-TB9
M 8 x 1.25	3520-8.00X1.0DP	3,02	1.0	8.00	10	8.30	3520-8.00I	3500-HIT11	3500-TB12
M 8 x 1.25	3520-8.00X1.5DP	3,37	1.5	12.00	10	8.30	3520-8.00I	3500-HIT11	3500-TB12
M 8 x 1.25	3520-8.00X2.0DP	4,55	2.0	16.00	10	8.30	3520-8.00I	3500-HIT11	3500-TB12
M 10 x 1.25	3521-10.00X1.5DP	4,55	1.5	15.00	10	10.30	3521-10.00I	3500-HIT13	3500-TB13
M 10 x 1.50	3520-10.00X1.5DP	4,55	1.5	15.00	10	10.40	3520-10.00I	3500-HIT13	3500-TB13
M 10 x 1.50	3520-10.00X2.0DP	5,28	2.0	20.00	10	10.40	3520-10.00I	3500-HIT13	3500-TB13
M 12 x 1.50	3521-12.00X1.5DP	6,74	1.5	18.00	10	12.40	3521-12.00I	3500-HIT15	3500-TB15
M 12 x 1.75	3520-12.00X1.5DP	6,74	1.5	18.00	10	12.40	3520-12.00I	3500-HIT15	3500-TB15
M 14 x 1.50	3521-14.00X1.5DP	4,96	1.5	21.00	5	14.40	3521-14.00I	3500-HIT16	-
M 16 x 2.00	3520-16.00X1.5DP	6,15	1.5	24.00	5	16.50	3520-16.00I	3500-HIT18	-

Otras medidas bajo demanda / More sizes on request / Autres dimensions sur demande

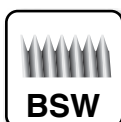
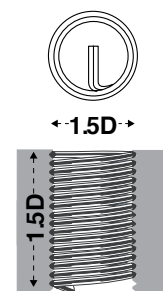
BUJÍA
SPARK PLUG
BOUGIE



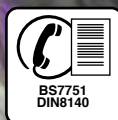
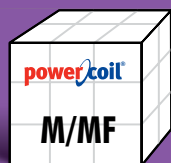
		€	D	mm	Unit				
M/MF	Ref.					mm			
M 12 x 1.25	3522-12.00X1/2P	5,49	-	1/2	10	12.30	3522-12.00PN	3500-HIT15	3500-TB15
M 12 x 1.25	3522-12.00X3/4P	6,86	-	3/4	10	12.30	3522-12.00PN	3500-HIT15	3500-TB15
M 14 x 1.25	3522-14.00X3/8P	8,78	-	3/8	10	14.30	3522-14.00PN	3500-HIT17	3500-HIT17
M 14 x 1.25	3522-14.00X1/2P	8,17	-	1/2	10	14.30	3522-14.00PN	3500-HIT17	3500-HIT17
M 14 x 1.25	3522-14.00X3/4P	12,41	-	3/4	10	14.30	3522-14.00PN	3500-HIT17	3500-HIT17
M 14 x 1.25	3522-14.00X8.4P	4,60	-	8.4	10	14.30	3522-14.00PN	3500-HIT17	3500-HIT17
M 14 x 1.25	3522-14.00X12.4P	4,60	-	12.4	10	14.30	3522-14.00PN	3500-HIT17	3500-HIT17
M 14 x 1.25	3522-14.00X16.4P	4,60	-	16.4	10	14.30	3522-14.00PN	3500-HIT17	3500-HIT17





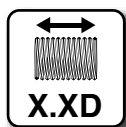
		€	D	"	Unit	mm			
UNC	Ref.								
UNC N°6 - 32	3532-6GX1.5DP	2,84	1.5	0.21	10	3.80	3532-6GI	3500-HIT5	3500-TB5
UNC N°8 - 32	3532-8GX1.5DP	2,84	1.5	0.25	10	4.40	3532-8GI	3500-HIT6	3500-TB6
UNC N°10 - 24	3532-10GX1.5DP	3,24	1.5	0.28	10	5.20	3532-10GI	3500-HIT7	3500-TB8
UNC 1/4 - 20	3532-1/4X1.5DP	3,75	1.5	0.38	10	6.70	3532-1/4I	3500-HIT9	3500-TB9
UNC 5/16 - 18	3532-5/16X1.0DP	4,34	1.0	0.31	10	8.30	3532-5/16I	3500-HIT10	3500-TB11
UNC 5/16 - 18	3532-5/16X1.5DP	5,38	1.5	0.47	10	8.30	3532-5/16I	3500-HIT10	3500-TB11
UNC 5/16 - 18	3532-5/16X2.0DP	5,53	2.0	0.63	10	8.30	3532-5/16I	3500-HIT10	3500-TB11
UNC 3/8 - 16	3532-3/8X1.5DP	6,89	1.5	0.56	10	9.90	3532-3/8I	3500-HIT12	3500-TB12
UNC 3/8 - 16	3532-3/8X2.0DP	8,79	2.0	0.75	10	9.90	3532-3/8I	3500-HIT12	3500-TB12
UNC 7/16 - 14	3532-7/16X1.5DP	9,23	1.5	0.66	10	11.60	3532-7/16I	3500-HIT14	3500-TB14
UNC 1/2 - 13	3532-1/2X1.5DP	9,23	1.5	0.75	10	13.00	3532-1/2I	3500-HIT15	3500-TB15
UNC 5/8 - 11	3532-5/8X1.5DP	16,17	1.5	0.94	5	16.50	3532-5/8I	3500-HIT18	—
UNC 3/4 - 10	3532-3/4X1.5DP	19,05	1.5	1.13	5	—	3532-3/4I	3500-HIT20	—
UNF									
UNF N°10 - 32	3534-10GX1.5DP	3,39	1.5	0.28	10	5.10	3534-10GI	3500-HIT8	3500-TB8
UNF 1/4 - 28	3534-1/4X1.5DP	3,39	1.5	0.38	10	6.70	3534-1/4I	3500-HIT9	3500-TB9
UNF 5/16 - 24	3534-5/16X1.5DP	4,84	1.5	0.47	10	8.30	3534-5/16I	3500-HIT10	3500-TB11
UNF 3/8 - 24	3534-3/8X1.5DP	7,00	1.5	0.56	10	9.80	3534-3/8I	3500-HIT12	3500-TB12
UNF 7/16 - 20	3534-7/16X1.5DP	9,36	1.5	0.66	10	11.50	3534-7/16I	3500-HIT14	3500-TB14
UNF 1/2 - 20	3534-1/2X1.5DP	9,36	1.5	0.75	10	13.00	3534-1/2I	3500-HIT15	3500-TB15



		€	D	"	Unit	mm			
BSW	Ref.								
BSW 1/2 - 12	3528-1/2X1.5DP	10,93	1.5	0.75	10	13.00	3528-1/2I	3500-HIT15	3500-TB15

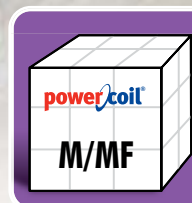
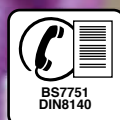






		1.0D				1.5D				2.0D			
		mm	€			mm	€			mm	€		
M/MF	Ref.		<500	500-999	1000-...		<500	500-999	1000-...		<500	500-999	1000-...
M 2 x 0.40	3520-2.00	2.00	0,89	0,75	0,41	3.00	1,17	0,95	0,47	4.00	1,35	1,09	0,50
M 2.20 x 0.45	3520-2.20	2.20	0,84	0,72	0,42	3.30	1,10	0,91	0,47	4.40	1,27	1,04	0,50
M 2.50 x 0.45	3520-2.50	2.50	0,34	0,29	0,22	3.75	0,34	0,31	0,25	5.00	0,34	0,32	0,29
M 3 x 0.50	3520-3.00	3.00	0,25	0,22	0,19	4.50	0,28	0,24	0,20	6.00	0,29	0,27	0,23
M 3.50 x 0.60	3520-3.50	3.50	0,29	0,27	0,24	5.25	0,31	0,30	0,28	7.00	0,33	0,31	0,29
M 4 x 0.70	3520-4.00	4.00	0,25	0,23	0,21	6.00	0,28	0,24	0,21	8.00	0,29	0,25	0,21
M 5 x 0.80	3520-5.00	5.00	0,29	0,25	0,21	7.50	0,30	0,27	0,22	10.00	0,33	0,30	0,25
M 6 x 1.00	3520-6.00	6.00	0,32	0,29	0,23	9.00	0,34	0,30	0,23	12.00	0,38	0,34	0,29
M 7 x 1.00	3520-7.00	7.00	0,38	0,34	0,29	10.50	0,45	0,40	0,35	14.00	0,50	0,45	0,38
M 8 x 1.00	3521-8.00	8.00	0,40	0,36	0,31	12.00	0,42	0,37	0,31	16.00	0,49	0,43	0,38
M 8 x 1.25	3520-8.00	8.00	0,33	0,30	0,25	12.00	0,38	0,34	0,29	16.00	0,45	0,38	0,31
M 9 x 1.25	3520-9.00	9.00	0,82	0,73	0,61	13.50	1,05	0,87	0,64	18.00	1,10	0,92	0,67
M 10 x 1.00	3523-10.00	10.00	0,42	0,38	0,33	15.00	0,52	0,46	0,38	20.00	0,52	0,49	0,45
M 10 x 1.25	3521-10.00	10.00	0,42	0,37	0,31	15.00	0,52	0,46	0,38	20.00	0,52	0,49	0,45
M 10 x 1.50	3520-10.00	10.00	0,42	0,36	0,27	15.00	0,52	0,42	0,31	20.00	0,52	0,46	0,37
M 11 x 1.50	3520-11.00	11.00	0,83	0,70	0,54	16.50	0,84	0,72	0,56	22.00	0,85	0,77	0,68
M 12 x 1.25	3523-12.00	12.00	0,68	0,58	0,45	18.00	0,73	0,64	0,52	24.00	0,80	0,74	0,68
M 12 x 1.50	3521-12.00	12.00	0,68	0,58	0,45	18.00	0,73	0,64	0,52	24.00	0,80	0,74	0,68
M 12 x 1.75	3520-12.00	12.00	0,61	0,52	0,40	18.00	0,73	0,63	0,50	24.00	0,80	0,70	0,56
M 14 x 1.50	3521-14.00	14.00	0,92	0,82	0,68	21.00	0,99	0,92	0,78	28.00	1,09	1,04	0,96
M 14 x 2.00	3520-14.00	14.00	0,87	0,76	0,61	21.00	1,00	0,92	0,77	28.00	1,10	1,05	0,96
M 16 x 1.50	3521-16.00	16.00	1,25	1,11	0,92	24.00	1,35	1,21	1,04	32.00	1,51	1,39	1,23
M 16 x 2.00	3520-16.00	16.00	1,18	1,05	0,89	24.00	1,23	1,13	0,99	32.00	1,52	1,41	1,27
M 18 x 1.50	3523-18.00	18.00	2,11	1,79	1,36	27.00	2,11	1,89	1,58	36.00	3,23	2,75	2,10
M 18 x 2.00	3521-18.00	18.00	1,77	1,64	1,47	27.00	1,98	1,92	1,82	36.00	2,70	2,45	2,10
M 18 x 2.50	3520-18.00	18.00	1,74	1,55	1,29	27.00	1,98	1,75	1,44	36.00	2,70	2,43	2,05
M 20 x 1.50	3523-20.00	20.00	2,35	2,12	1,79	30.00	2,51	2,27	1,93	40.00	3,25	2,93	2,47
M 20 x 2.00	3521-20.00	20.00	2,05	1,83	1,53	30.00	2,51	2,30	2,00	40.00	3,23	2,92	2,47
M 20 x 2.50	3520-20.00	20.00	2,08	1,84	1,53	30.00	2,51	2,25	1,89	40.00	3,23	2,88	2,41
M 22 x 1.50	3523-22.00	22.00	2,39	2,27	2,10	33.00	2,59	2,46	2,29	44.00	2,87	2,83	2,78
M 22 x 2.00	3521-22.00	22.00	2,16	2,04	1,87	33.00	2,70	2,52	2,29	44.00	3,42	3,28	3,08
M 22 x 2.50	3520-22.00	22.00	2,16	2,02	1,83	33.00	2,70	2,48	2,19	44.00	3,42	3,16	2,80
M 24 x 1.50	3523-24.00	24.00	2,59	2,45	2,26	36.00	2,95	2,84	2,71	48.00	3,51	3,36	3,16
M 24 x 2.00	3521-24.00	24.00	2,70	2,58	2,41	36.00	3,24	3,08	2,87	48.00	3,59	3,51	3,39
M 24 x 3.00	3520-24.00	24.00	2,70	2,58	2,41	36.00	3,24	3,08	2,87	48.00	3,59	3,42	3,20

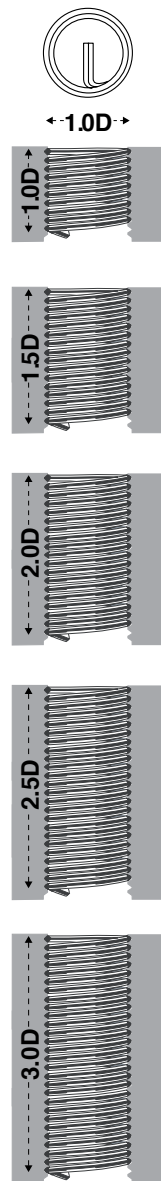


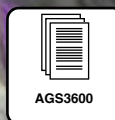
Ejemplo de Codificación: INSERTO AUTOBLOCANTE
Coding Example: SCREW LOCKING INSERT
Exemple de Codification: FILET RAPPORTÉ À FREIN






	1.0D	1.5D
M 14 x 2.00	3520-14.00x1.0DSL	3520-14.00x1.5DSL

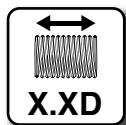


		 2.5D				 3.0D				
		mm	€			mm	€			
M/MF	Ref.		<500	500-999	1000-...		<500	500-999	1000-...	
M 2 x 0.40	3520-2.00	5.00	1,53	1,24	0,59	6.00	1,91	1,58	0,65	100
M 2.20 x 0.45	3520-2.20	5.50	1,44	1,18	0,59	6.60	1,80	1,49	0,60	
M 2.50 x 0.45	3520-2.50	6.25	0,34	0,32	0,30	9.00	0,41	0,40	0,39	
M 3 x 0.50	3520-3.00	7.50	0,34	0,32	0,29	9.00	0,41	0,37	0,33	
M 3.50 x 0.60	3520-3.50	8.75	0,38	0,36	0,33	10.50	0,46	0,42	0,39	
M 4 x 0.70	3520-4.00	10.00	0,34	0,32	0,29	12.00	0,38	0,35	0,32	
M 5 x 0.80	3520-5.00	12.50	0,40	0,37	0,33	15.00	0,48	0,43	0,39	
M 6 x 1.00	3520-6.00	15.00	0,46	0,42	0,38	18.00	0,55	0,50	0,42	
M 7 x 1.00	3520-7.00	17.50	0,54	0,52	0,50	21.00	0,65	0,61	0,56	
M 8 x 1.00	3521-8.00	20.00	0,57	0,53	0,47	24.00	0,70	0,68	0,65	
M 8 x 1.25	3520-8.00	20.00	0,54	0,50	0,42	24.00	0,65	0,59	0,53	50
M 9 x 1.25	3520-9.00	22.50	1,23	1,08	0,89	27.00	1,60	1,46	1,27	
M 10 x 1.00	3523-10.00	25.00	0,63	0,56	0,48	30.00	0,87	0,80	0,69	
M 10 x 1.25	3521-10.00	25.00	0,63	0,59	0,56	30.00	0,87	0,84	0,80	
M 10 x 1.50	3520-10.00	25.00	0,63	0,56	0,47	30.00	0,87	0,78	0,67	
M 11 x 1.50	3520-11.00	27.50	1,05	0,96	0,86	33.00	1,29	1,24	1,18	
M 12 x 1.25	3523-12.00	30.00	0,93	0,90	0,85	36.00	1,29	1,27	1,25	
M 12 x 1.50	3521-12.00	30.00	0,93	0,90	0,85	36.00	1,29	1,27	1,25	
M 12 x 1.75	3520-12.00	30.00	0,93	0,89	0,82	36.00	1,29	1,26	1,21	
M 14 x 1.50	3521-14.00	35.00	1,34	1,21	1,05	42.00	1,51	1,48	1,44	
M 14 x 2.00	3520-14.00	35.00	1,34	1,26	1,16	42.00	1,74	1,69	1,60	
M 16 x 1.50	3521-16.00	40.00	1,65	1,55	1,42	48.00	2,14	2,08	1,99	
M 16 x 2.00	3520-16.00	40.00	1,65	1,59	1,49	48.00	2,14	2,13	2,11	
M 18 x 1.50	3523-18.00	45.00	3,45	3,02	2,45	54.00	3,86	3,51	3,04	
M 18 x 2.00	3521-18.00	45.00	3,06	2,81	2,48	54.00	3,59	3,51	3,39	
M 18 x 2.50	3520-18.00	45.00	3,06	2,79	2,42	54.00	3,59	3,48	3,31	
M 20 x 1.50	3523-20.00	50.00	3,47	3,18	2,79	60.00	4,57	4,18	3,64	
M 20 x 2.00	3521-20.00	50.00	3,59	3,42	3,20	60.00	4,57	4,48	4,37	
M 20 x 2.50	3520-20.00	50.00	3,59	3,39	3,11	60.00	4,49	4,39	4,25	
M 22 x 1.50	3523-22.00	55.00	4,17	3,78	3,28	66.00	5,30	5,08	4,78	
M 22 x 2.00	3521-22.00	55.00	4,19	4,11	4,01	66.00	6,01	5,81	5,55	
M 22 x 2.50	3520-22.00	55.00	4,19	3,95	3,64	66.00	6,07	5,64	5,05	
M 24 x 1.50	3523-24.00	60.00	4,83	4,45	3,93	72.00	6,11	5,67	5,10	
M 24 x 2.00	3521-24.00	60.00	5,22	4,89	4,44	72.00	6,22	6,16	6,07	
M 24 x 3.00	3520-24.00	60.00	5,22	4,77	4,18	72.00	6,10	5,93	5,71	



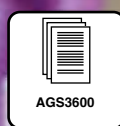






			 1.0D				1.5D				2.0D		
		"	€			"	€			"	€		
UNC	Ref.		< 500	500-999	1000-...		< 500	500-999	1000-...		< 500	500-999	1000-...
UNC N°2 - 56	3532-2G	0.09	0,84	0,73	0,57	0.13	0,99	0,85	0,67	0.17	1,27	1,10	0,87
UNC N°4 - 40	3532-4G	0.11	0,33	0,29	0,22	0.17	0,31	0,27	0,21	0.22	0,33	0,29	0,22
UNC N°5 - 40	3532-5G	0.13	0,39	0,34	0,27	0.19	0,41	0,36	0,29	0.25	0,38	0,33	0,25
UNC N°6 - 32	3532-6G	0.14	0,25	0,22	0,19	0.21	0,29	0,25	0,21	0.28	0,31	0,28	0,22
UNC N°8 - 32	3532-8G	0.16	0,25	0,22	0,19	0.25	0,29	0,25	0,21	0.33	0,31	0,28	0,22
UNC N°10 - 24	3532-10G	0.19	0,33	0,29	0,22	0.29	0,33	0,29	0,22	0.38	0,36	0,31	0,24
UNC N°12 - 24	3532-12G	0.22	0,34	0,30	0,23	0.32	0,38	0,33	0,25	0.43	0,41	0,35	0,28
UNC 1/4 - 20	3532-1/4	0.25	0,34	0,30	0,23	0.38	0,38	0,33	0,25	0.50	0,41	0,35	0,28
UNC 5/16 - 18	3532-5/16	0.31	0,46	0,39	0,31	0.47	0,54	0,47	0,37	0.62	0,57	0,50	0,39
UNC 3/8 - 16	3532-3/8	0.38	0,70	0,60	0,48	0.57	0,70	0,60	0,48	0.75	0,91	0,80	0,63
UNC 7/16 - 14	3532-7/16	0.44	0,77	0,67	0,52	0.66	0,93	0,81	0,64	0.88	1,06	0,91	0,72
UNC 1/2 - 13	3532-1/2	0.50	0,84	0,72	0,56	0.75	0,93	0,81	0,64	1.00	1,06	0,91	0,72
UNC 9/16 - 12	3532-9/16	0.56	2,70	2,33	1,83	0.84	3,59	3,11	2,45	1.12	4,62	4,00	3,15
UNC 5/8 - 11	3532-5/8	0.63	2,45	2,11	1,66	0.94	3,28	2,83	2,23	1.25	4,07	3,52	2,77
UNC 3/4 - 10	3532-3/4	0.75	2,84	2,46	1,94	1.13	3,86	3,34	2,63	1.50	4,82	4,17	3,28
UNC 7/8 - 9	3532-7/8	0.88	4,09	3,54	2,79	1.32	6,13	5,29	4,17	1.75	7,78	6,72	5,30
UNC 1 - 8	3532-1	1.00	4,09	3,54	2,79	1.50	6,13	5,29	4,17	2.00	7,78	6,72	5,30

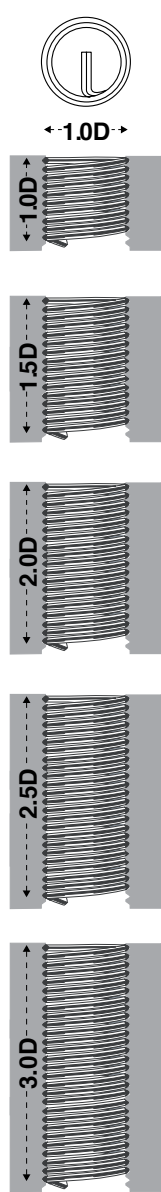


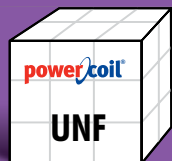
Ejemplo de Codificación: INSERTO AUTOBLOCANTE
Coding Example: SCREW LOCKING INSERT
Exemple de Codification: FILET RAPPORTÉ À FREIN





	1.0D	1.5D
UNC 1/4 - 20	3532-1/4x1.0DSL	3532-1/4x1.0DSL

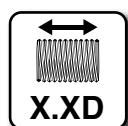


		 2.5D				 3.0D				
		"	€			"	€			
UNC	Ref.		< 500	500-999	1000-...		< 500	500-999	1000-...	
UNC N°2 - 56	3532-2G	0.22	1,44	1,24	0,98	0.26	1,55	1,34	1,05	100
UNC N°4 - 40	3532-4G	0.28	0,38	0,33	0,25	0.34	0,46	0,39	0,31	
UNC N°5 - 40	3532-5G	0.31	0,46	0,39	0,31	0.38	0,64	0,55	0,43	
UNC N°6 - 32	3532-6G	0.35	0,34	0,30	0,24	0.41	0,40	0,35	0,28	
UNC N°8 - 32	3532-8G	0.41	0,34	0,30	0,24	0.49	0,40	0,35	0,28	
UNC N°10 - 24	3532-10G	0.48	0,43	0,37	0,30	0.57	0,52	0,46	0,36	
UNC N°12 - 24	3532-12G	0.54	0,50	0,43	0,34	0.65	0,61	0,53	0,42	
UNC 1/4 - 20	3532-1/4	0.63	0,50	0,43	0,34	0.75	0,61	0,53	0,42	
UNC 5/16 - 18	3532-5/16	0.78	0,69	0,59	0,47	0.93	0,84	0,72	0,56	
UNC 3/8 - 16	3532-3/8	0.94	1,05	0,90	0,71	1.13	1,24	1,07	0,85	
UNC 7/16 - 14	3532-7/16	1.10	1,26	1,09	0,86	1.32	1,55	1,34	1,06	50
UNC 1/2 - 13	3532-1/2	1.25	1,26	1,09	0,86	1.50	1,55	1,34	1,06	
UNC 9/16 - 12	3532-9/16	1.40	5,29	4,57	3,60	1.69	6,38	5,51	4,35	
UNC 5/8 - 11	3532-5/8	1.56	4,87	4,21	3,32	1.88	5,81	5,01	3,95	25
UNC 3/4 - 10	3532-3/4	1.88	5,72	4,94	3,89	2.25	6,85	5,93	4,66	
UNC 7/8 - 9	3532-7/8	2.19	9,21	7,95	6,26	2.63	11,17	9,66	7,60	
UNC 1 - 8	3532-1	2.50	9,21	7,95	6,26	3.00	11,17	9,66	7,60	









			 1.0D		 1.5D		 2.0D						
		"	€			"	€			"	€		
UNF	Ref.		< 500	500-999	1000-...		< 500	500-999	1000-...		< 500	500-999	1000-...
UNF N°4 - 48	3534-4G	0.11	0,76	0,66	0,51	0.17	0,86	0,74	0,58	0.22	1,16	0,99	0,77
UNF N°6 - 40	3534-6G	0.14	0,76	0,66	0,51	0.21	0,86	0,74	0,58	0.28	1,16	0,99	0,77
UNF N°8 - 36	3534-8G	0.16	0,76	0,66	0,51	0.25	0,86	0,74	0,58	0.33	1,16	0,99	0,77
UNF N°10 - 32	3534-10G	0.19	0,33	0,29	0,22	0.29	0,34	0,30	0,23	0.38	0,41	0,35	0,28
UNF 1/4 - 28	3534-1/4	0.25	0,33	0,29	0,22	0.38	0,34	0,30	0,23	0.50	0,41	0,35	0,28
UNF 5/16 - 24	3534-5/16	0.31	0,46	0,39	0,31	0.47	0,49	0,41	0,33	0.63	0,57	0,50	0,39
UNF 3/8 - 24	3534-3/8	0.38	0,67	0,57	0,45	0.57	0,70	0,60	0,47	0.75	0,84	0,72	0,57
UNF 7/16 - 20	3534-7/16	0.44	0,84	0,72	0,56	0.66	0,93	0,81	0,63	0.88	1,06	0,91	0,71
UNF 1/2 - 20	3534-1/2	0.50	0,84	0,72	0,56	0.75	0,93	0,81	0,63	1.00	1,06	0,91	0,71
UNF 9/16 - 18	3534-9/16	0.56	1,96	1,69	1,33	0.84	1,96	1,69	1,33	1.13	2,35	2,02	1,58
UNF 5/8 - 18	3534-5/8	0.63	1,96	1,69	1,33	0.94	1,96	1,69	1,33	1.25	2,35	2,02	1,58
UNF 3/4 - 16	3534-3/4	0.75	3,23	2,79	2,18	1.13	4,51	3,88	3,03	1.50	5,44	4,67	3,66
UNF 7/8 - 14	3534-7/8	0.88	4,21	3,63	2,83	1.31	6,21	5,35	4,19	1.75	7,91	6,81	5,32
UNF 1 - 12	3534-1	1.00	4,21	3,63	2,83	1.50	6,21	5,35	4,19	2.00	7,91	6,81	5,32
UNF 1 - 14	3535-1	1.00	4,21	3,67	2,95	1.50	6,21	5,42	4,35	2.00	7,91	6,90	5,53



Ejemplo de Codificación: INSERTO AUTOBLOCANTE
Coding Example: SCREW LOCKING INSERT
Exemple de Codification: FILET RAPPORTÉ À FREIN

	 1.0D	 1.5D
UNF N°4 - 48	3534-4Gx1.0DSL	3534-4Gx1.5DSL

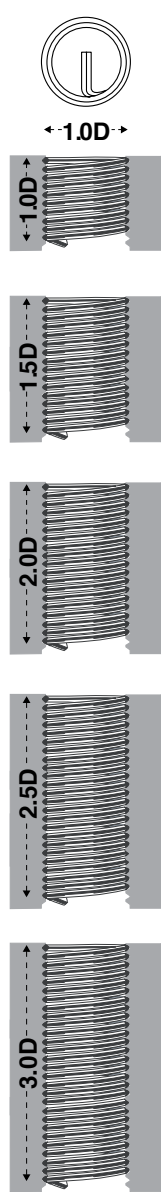


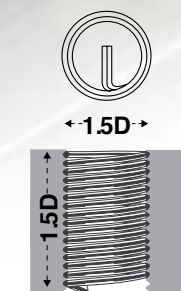
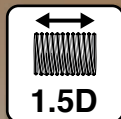
				2.5D			3.0D		
		"	€			"	€		
UNF	Ref.		<500	500-999	1000-...		<500	500-999	1000-...
UNF N°4 - 48	3534-4G	0.28	1,87	1,60	1,25	0.34	2,62	2,27	1,78
UNF N°6 - 40	3534-6G	0.35	1,87	1,62	1,30	0.41	2,62	2,27	1,78
UNF N°8 - 36	3534-8G	0.41	1,77	1,54	1,24	0.49	2,45	2,11	1,66
UNF N°10 - 32	3534-10G	0.48	0,50	0,43	0,35	0.57	0,61	0,53	0,42
UNF 1/4 - 28	3534-1/4	0.63	0,50	0,43	0,35	0.75	0,61	0,53	0,42
UNF 5/16 - 24	3534-5/16	0.78	0,69	0,60	0,48	0.94	0,84	0,72	0,56
UNF 3/8 - 24	3534-3/8	0.94	1,03	0,90	0,72	1.13	1,24	1,07	0,85
UNF 7/16 - 20	3534-7/16	1.09	1,26	1,10	0,88	1.31	1,55	1,34	1,06
UNF 1/2 - 20	3534-1/2	1.25	1,26	1,10	0,88	1.50	1,55	1,34	1,06
UNF 9/16 - 18	3534-9/16	1.41	2,87	2,51	2,01	1.69	3,31	2,86	2,25
UNF 5/8 - 18	3534-5/8	1.56	2,70	2,35	1,89	1.88	3,31	2,86	2,25
UNF 3/4 - 16	3534-3/4	1.88	6,58	5,75	4,61	2.25	7,89	6,82	5,37
UNF 7/8 - 14	3534-7/8	2.19	9,08	7,92	6,36	2.63	10,89	9,40	7,41
UNF 1 - 12	3534-1	2.50	10,83	9,44	7,58	3.00	13,04	11,27	8,87
UNF 1 - 14	3535-1	2.50	10,83	9,46	7,58	3.00	13,04	11,37	9,13

100

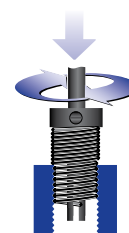
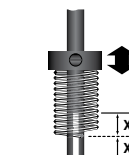
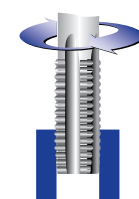
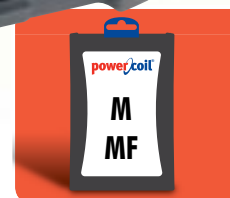
50

25




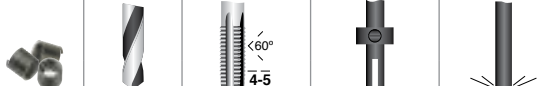


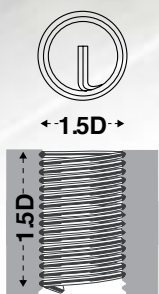







M/MF	Ref.	€	D		Unit	mm	Contenido / Content / Contenu			
				mm						
M 2 x 0.40	3520-2.00K	43,65	1.5	3.00	20	2.1	3520-2.00I	3500-HIT2	3500-TB2	
M 2.20 x 0.45	3520-2.20K	58,44	1.5	3.30	20	2.3	3520-2.20I	3500-HIT2	3500-TB2	
M 2.50 x 0.45	3520-2.50K	40,36	1.5	3.75	20	2.6	3520-2.50I	3500-HIT3	3500-TB3	
M 3 x 0.50	3520-3.00K	40,36	1.5	4.50	20	3.2	3520-3.00I	3500-HIT4	3500-TB4	
M 3.50 x 0.60	3520-3.50K	40,36	1.5	5.25	20	3.7	3520-3.50I	3500-HIT5	3500-TB5	
M 4 x 0.70	3520-4.00K	40,36	1.5	6.00	20	4.2	3520-4.00I	3500-HIT6	3500-TB6	
M 5 x 0.80	3520-5.00K	40,15	1.5	7.50	20	5.2	3520-5.00I	3500-HIT8	3500-TB8	
M 6 x 1.00	3520-6.00K	43,25	1.5	9.00	20	6.3	3520-6.00I	3500-HIT9	3500-TB9	
M 7 x 1.00	3520-7.00K	55,00	1.5	10.50	20	7.3	3520-7.00I	3500-HIT10	3500-TB11	
M 8 x 1.00	3521-8.00K	55,00	1.5	12.00	20	8.3	3521-8.00I	3500-HIT11	3500-TB12	
M 8 x 1.25	3520-8.00K	55,00	1.5	12.00	20	8.3	3520-8.00I	3500-HIT11	3500-TB12	
M 9 x 1.25	3520-9.00K	61,00	1.5	13.50	15	9.4	3520-9.00I	3500-HIT13	3500-TB12	
M 10 x 1.00	3523-10.00K	58,89	1.5	15.00	15	10.3	3523-10.00I	3500-HIT13	3500-TB13	
M 10 x 1.25	3521-10.00K	58,89	1.5	15.00	15	10.3	3521-10.00I	3500-HIT13	3500-TB13	
M 10 x 1.50	3520-10.00K	58,89	1.5	15.00	15	10.4	3520-10.00I	3500-HIT13	3500-TB13	
M 11 x 1.00	3523-11.00K	81,62	1.5	16.50	10	11.3	3523-11.00I	3500-HIT14	3500-TB14	
M 11 x 1.25	3521-11.00K	81,62	1.5	16.50	10	11.3	3521-11.00I	3500-HIT14	3500-TB14	
M 11 x 1.50	3520-11.00K	67,52	1.5	16.50	10	11.4	3520-11.00I	3500-HIT14	3500-TB14	
M 12 x 1.00	3524-12.00K	67,52	1.5	18.00	10	12.3	3524-12.00I	3500-HIT15	3500-TB15	
M 12 x 1.25	3523-12.00K	67,52	1.5	18.00	10	12.3	3523-12.00I	3500-HIT15	3500-TB15	
M 12 x 1.50	3521-12.00K	67,52	1.5	18.00	10	12.4	3521-12.00I	3500-HIT15	3500-TB15	
M 12 x 1.75	3520-12.00K	67,52	1.5	18.00	10	12.4	3520-12.00I	3500-HIT15	3500-TB15	
M 13 x 1.25	3523-13.00K	97,17	1.5	19.50	10	—	3523-13.00I	3500-HIT15	—	
M 13 x 1.50	3521-13.00K	97,17	1.5	19.50	10	—	3521-13.00I	3500-HIT15	—	
M 13 x 1.75	3520-13.00K	97,17	1.5	19.50	10	—	3520-13.00I	3500-HIT15	—	
M 14 x 1.00	3524-14.00K	77,62	1.5	21.00	10	—	3524-14.00I	3500-HIT16	—	
M 14 x 1.25	3523-14.00K	77,62	1.5	21.00	10	—	3523-14.00I	3500-HIT16	—	
M 14 x 1.50	3521-14.00K	77,62	1.5	21.00	10	—	3521-14.00I	3500-HIT16	—	
M 14 x 2.00	3520-14.00K	77,62	1.5	21.00	10	—	3520-14.00I	3500-HIT16	—	
M 15 x 1.50	3521-15.00K	116,14	1.5	22.50	10	—	3521-15.00I	3500-HIT16	—	
M 15 x 2.00	3520-15.00K	116,14	1.5	22.50	10	—	3520-15.00I	3500-HIT16	—	
M 16 x 1.50	3521-16.00K	91,42	1.5	24.00	10	—	3521-16.00I	3500-HIT18	—	
M 16 x 2.00	3520-16.00K	91,42	1.5	24.00	10	—	3520-16.00I	3500-HIT18	—	
M 18 x 1.50	3523-18.00K	108,59	1.5	27.00	5	—	3523-18.00I	3500-HIT20	—	








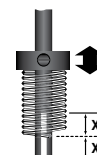
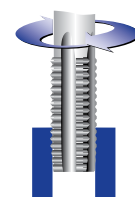
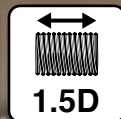
M/MF		Ref.		€		D		mm		Unit		mm	
M/MF		Ref.		€		D		mm		Contenido / Content / Contenu			
M	18 x 2.00	3521-18.00K	108,59	1.5	27.00	5	—	3521-18.00I	3500-HIT20	—			
M	18 x 2.50	3520-18.00K	108,59	1.5	27.00	5	—	3520-18.00I	3500-HIT20	—			
M	20 x 1.50	3523-20.00K	118,38	1.5	30.00	5	—	3523-20.00I	3500-HIT21	—			
M	20 x 2.00	3521-20.00K	118,38	1.5	30.00	5	—	3521-20.00I	3500-HIT21	—			
M	20 x 2.50	3520-20.00K	118,38	1.5	30.00	5	—	3520-20.00I	3500-HIT21	—			
M	22 x 1.50	3523-22.00K	135,96	1.5	33.00	5	—	3523-22.00I	3500-HIT22	—			
M	22 x 2.00	3521-22.00K	135,96	1.5	33.00	5	—	3521-22.00I	3500-HIT22	—			
M	22 x 2.50	3520-22.00K	135,96	1.5	33.00	5	—	3520-22.00I	3500-HIT22	—			
M	24 x 1.50	3523-24.00K	155,97	1.5	36.00	5	—	3523-24.00I	3500-HIT23	—			
M	24 x 2.00	3521-24.00K	155,97	1.5	36.00	5	—	3521-24.00I	3500-HIT23	—			
M	24 x 3.00	3520-24.00K	155,97	1.5	36.00	5	—	3520-24.00I	3500-HIT23	—			

										
			€	D	mm	Unit	mm			
M/MF		Ref.	Contenido / Content / Contenu							
M	26 x 1.50	3523-26.00K	315,63	1.5	39.00	10	—	3523-26.00I	3523-26.00HIM	—
M	27 x 1.50	3523-27.00K	315,63	1.5	40.50	10	—	3523-27.00I	3523-27.00HIM	—
M	27 x 2.00	3521-27.00K	315,63	1.5	40.50	10	—	3521-27.00I	3521-27.00HIM	—
M	27 x 3.00	3520-27.00K	315,63	1.5	40.50	10	—	3520-27.00I	3520-27.00HIM	—
M	28 x 1.50	3523-28.00K	365,73	1.5	42.00	10	—	3523-28.00I	3523-28.00HIM	—
M	30 x 1.50	3523-30.00K	382,65	1.5	45.00	10	—	3523-30.00I	3523-30.00HIM	—
M	30 x 2.00	3521-30.00K	402,70	1.5	45.00	10	—	3521-30.00I	3521-30.00HIM	—
M	30 x 3.50	3520-30.00K	382,65	1.5	45.00	10	—	3520-30.00I	3520-30.00HIM	—
M	33 x 2.00	3521-33.00K	399,57	1.5	49.50	10	—	3521-33.00I	3521-33.00HIM	—
M	33 x 3.50	3520-33.00K	399,57	1.5	49.50	10	—	3520-33.00I	3520-33.00HIM	—
M	36 x 1.50	3524-36.00K	443,42	1.5	54.00	10	—	3524-36.00I	3524-36.00HIM	—
M	36 x 2.00	3523-36.00K	443,42	1.5	54.00	10	—	3523-36.00I	3523-36.00HIM	—
M	36 x 3.00	3521-36.00K	443,42	1.5	54.00	10	—	3521-36.00I	3521-36.00HIM	—
M	36 x 4.00	3520-36.00K	443,42	1.5	54.00	10	—	3520-36.00I	3520-36.00HIM	—



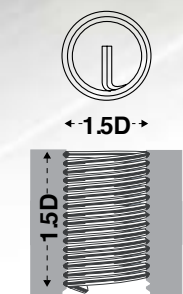
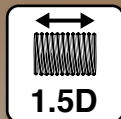
		€	D	"	Unit	mm			
UNC	Ref.				Contenido / Content / Contenu				
UNC N°2 - 56	3532-2GK	57,26	1.5	0.13	20	2.4	3532-2GI	3500-HIT2	3500-TB2
UNC N°3 - 48	3532-3GK	54,84	1.5	0.15	20	2.7	3532-3GI	3500-HIT3	3500-TB3
UNC N°4 - 40	3532-4GK	51,93	1.5	0.17	20	3.1	3532-4GI	3500-HIT4	3500-TB4
UNC N°5 - 40	3532-5GK	51,93	1.5	0.19	20	3.4	3532-5GI	3500-HIT4	3500-TB4
UNC N°6 - 32	3532-6GK	51,93	1.5	0.21	20	3.8	3532-6GI	3500-HIT5	3500-TB5
UNC N°8 - 32	3532-8GK	51,93	1.5	0.25	20	4.4	3532-8GI	3500-HIT6	3500-TB6
UNC N°10 - 24	3532-10GK	51,93	1.5	0.28	20	5.2	3532-10GI	3500-HIT7	3500-TB8
UNC N°12 - 24	3532-12GK	51,93	1.5	0.33	20	5.8	3532-12GI	3500-HIT8	3500-TB8
UNC 1/4 - 20	3532-1/4K	46,79	1.5	0.38	20	6.7	3532-1/4I	3500-HIT9	3500-TB9
UNC 5/16 - 18	3532-5/16K	57,26	1.5	0.47	20	8.3	3532-5/16I	3500-HIT10	3500-TB12
UNC 3/8 - 16	3532-3/8K	61,20	1.5	0.56	15	9.9	3532-3/8I	3500-HIT13	3500-TB12
UNC 7/16 - 14	3532-7/16K	68,72	1.5	0.66	10	11.6	3532-7/16I	3500-HIT14	3500-TB14
UNC 1/2 - 13	3532-1/2K	75,42	1.5	0.75	10	13.0	3532-1/2I	3500-HIT15	3500-TB15
UNC 9/16 - 12	3532-9/16K	100,69	1.5	0.84	10	—	3532-9/16I	3500-HIT16	—
UNC 5/8 - 11	3532-5/8K	100,69	1.5	0.94	10	—	3532-5/8I	3500-HIT18	—
UNC 3/4 - 10	3532-3/4K	128,34	1.5	1.13	5	—	3532-3/4I	3500-HIT20	—
UNC 7/8 - 9	3532-7/8K	155,97	1.5	1.31	5	—	3532-7/8I	3500-HIT22	—
UNC 1 - 8	3532-1K	154,96	1.5	1.50	5	—	3532-1I	3500-HIT23	—




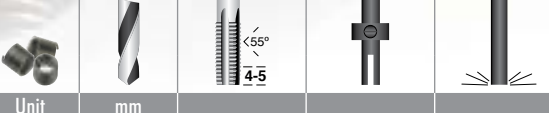
		€	D	"	Unit	mm			
UNC	Ref.				Contenido / Content / Contenu				
UNC 1.1/8 - 7	3532-1.1/8K	312,37	1.5	1.69	10	—	3532-1.1/8I	3532-1.1/8HIM	—
UNC 1.1/4 - 7	3532-1.1/4K	347,51	1.5	1.88	10	—	3532-1.1/4I	3532-1.1/4HIM	—
UNC 1.3/8 - 6	3532-1.3/8K	417,79	1.5	2.06	10	—	3532-1.3/8I	3532-1.3/8HIM	—
UNC 1.1/2 - 6	3532-1.1/2K	486,77	1.5	2.25	10	—	3532-1.1/2I	3532-1.1/2HIM	—

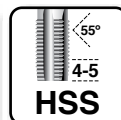
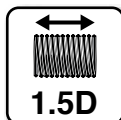





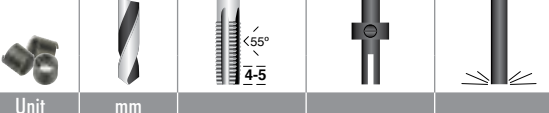
		€	D	"	Unit	mm			
UNF	Ref.				Contenido / Content / Contenu				
UNF N°3 - 56	3534-3GK	57,16	1.5	0.13	20	2.7	3534-3GI	3500-HIT3	3500-TB3
UNF N°4 - 48	3534-4GK	51,93	1.5	0.15	20	3.0	3534-4GI	3500-HIT4	3500-TB4
UNF N°6 - 40	3534-6GK	51,93	1.5	0.17	20	3.8	3534-6GI	3500-HIT5	3500-TB5
UNF N°8 - 36	3534-8GK	51,93	1.5	0.19	20	4.4	3534-8GI	3500-HIT6	3500-TB6
UNF N°10 - 32	3534-10GK	51,93	1.5	0.21	20	5.1	3534-10GI	3500-HIT8	3500-TB8
UNF N°12 - 28	3534-12GK	56,90	1.5	0.25	20	5.6	3534-12GI	3500-HIT8	3500-TB8
UNF 1/4 - 28	3534-1/4K	46,79	1.5	0.28	20	6.7	3534-1/4I	3500-HIT9	3500-TB9
UNF 5/16 - 24	3534-5/16K	57,26	1.5	0.33	20	8.3	3534-5/16I	3500-HIT11	3500-TB12
UNF 3/8 - 24	3534-3/8K	61,20	1.5	0.38	15	9.8	3534-3/8I	3500-HIT13	3500-TB13
UNF 7/16 - 16	3534-7/16-16K	83,27	1.5	0.47	10	11.5	3534-7/16-16I	3500-HIT14	3500-TB14
UNF 7/16 - 20	3534-7/16K	68,72	1.5	0.56	10	11.5	3534-7/16I	3500-HIT14	3500-TB14
UNF 1/2 - 20	3534-1/2K	75,42	1.5	0.66	10	13.0	3534-1/2I	3500-HIT15	3500-TB15
UNF 9/16 - 18	3534-9/16K	100,69	1.5	0.75	10	—	3534-9/16I	3500-HIT16	—
UNF 5/8 - 18	3534-5/8K	100,69	1.5	0.84	10	—	3534-5/8I	3500-HIT18	—
UNF 3/4 - 16	3534-3/4K	128,34	1.5	0.94	5	—	3534-3/4I	3500-HIT21	—
UNF 7/8 - 14	3534-7/8K	155,97	1.5	1.13	5	—	3534-7/8I	3500-HIT22	—
UNF 1 - 12	3534-1K	152,83	1.5	1.31	5	—	3534-1I	3500-HIT23	—
UNF 1 - 14	3535-1K	171,09	1.5	1.50	5	—	3535-1I	3500-HIT23	—

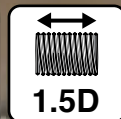
		€	D	"	Unit	mm			
UNF	Ref.				Contenido / Content / Contenu				
UNF 1.1/8 - 12	3534-1.1/8K	312,37	1.5	1.69	10	—	3534-1.1/8I	3534-1.1/8HIM	—
UNF 1.1/4 - 12	3534-1.1/4K	347,51	1.5	1.88	10	—	3534-1.1/4I	3534-1.1/4HIM	—
UNF 1.3/8 - 12	3534-1.3/8K	417,79	1.5	2.06	10	—	3534-1.3/8I	3534-1.3/8HIM	—
UNF 1.1/2 - 12	3534-1.1/2K	486,77	1.5	2.25	10	—	3534-1.1/2I	3534-1.1/2HIM	—



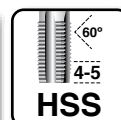
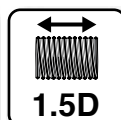
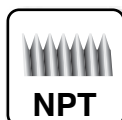
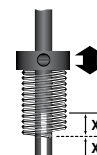
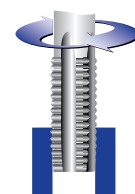
									
		€	D	"	Unit	mm			
BSW	Ref.				Contenido / Content / Contenu				
BSW 1/8 - 40	3528-1/8K	53,32	1.5	0.19	20	3.4	3528-1/8I	3500-HIT4	3500-TB4
BSW 3/16 - 24	3528-3/16K	51,93	1.5	0.28	20	5.0	3528-3/16I	3500-HIT7	3500-TB8
BSW 1/4 - 20	3528-1/4K	48,04	1.5	0.38	20	6.7	3528-1/4I	3500-HIT9	3500-TB9
BSW 5/16 - 18	3528-5/16K	57,26	1.5	0.47	20	8.3	3528-5/16I	3500-HIT10	3500-TB11
BSW 3/8 - 16	3528-3/8K	61,20	1.5	0.56	15	9.9	3528-3/8I	3500-HIT11	3500-TB12
BSW 7/16 - 14	3528-7/16K	68,72	1.5	0.66	10	11.5	3528-7/16I	3500-HIT14	3500-TB14
BSW 1/2 - 12	3528-1/2K	75,42	1.5	0.75	10	13.0	3528-1/2I	3500-HIT15	3500-TB15
BSW 9/16 - 12	3528-9/16K	100,69	1.5	0.84	10	—	3528-9/16I	3500-HIT16	—
BSW 5/8 - 11	3528-5/8K	100,69	1.5	0.94	10	—	3528-5/8I	3500-HIT18	—
BSW 3/4 - 10	3528-3/4K	128,34	1.5	1.13	5	—	3528-3/4I	3500-HIT20	—
BSW 7/8 - 9	3528-7/8K	155,97	1.5	1.31	5	—	3528-7/8I	3500-HIT22	—
BSW 1 - 8	3528-1K	154,96	1.5	1.50	5	—	3528-1I	3500-HIT23	—



									
		€	D	"	Unit	mm			
BSF	Ref.				Contenido / Content / Contenu				
BSF 3/16 - 32	3530-3/16K	51,93	1.5	0.28	20	5.0	3530-3/16I	3500-HIT8	3500-TB6
BSF 1/4 - 26	3530-1/4K	46,79	1.5	0.38	20	6.6	3530-1/4I	3500-HIT9	3500-TB9
BSF 5/16 - 22	3530-5/16K	57,26	1.5	0.47	20	8.3	3530-5/16I	3500-HIT11	3500-TB11
BSF 3/8 - 20	3530-3/8K	61,20	1.5	0.56	15	9.9	3530-3/8I	3500-HIT13	3500-TB12
BSF 7/16 - 18	3530-7/16K	68,72	1.5	0.66	10	11.5	3530-7/16I	3500-HIT14	3500-TB14
BSF 1/2 - 16	3530-1/2K	75,42	1.5	0.75	10	13.0	3530-1/2I	3500-HIT15	3500-TB15
BSF 9/16 - 16	3530-9/16K	100,69	1.5	0.84	10	—	3530-9/16I	3500-HIT16	—
BSF 5/8 - 14	3530-5/8K	100,69	1.5	0.94	10	—	3530-5/8I	3500-HIT18	—
BSF 3/4 - 12	3530-3/4K	128,34	1.5	1.13	5	—	3530-3/4I	3500-HIT20	—
BSF 7/8 - 11	3530-7/8K	155,97	1.5	1.31	5	—	3530-7/8I	3500-HIT22	—
BSF 1 - 10	3530-1K	157,39	1.5	1.50	5	—	3530-1I	3500-HIT23	—

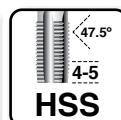
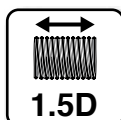
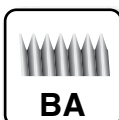
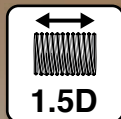


		€	D	"	Unit	mm			
BSP	Ref.				Contenido / Content / Contenu				
BSP 1/8 - 28	3546-1/8K	83,31	1.5	0.19	10	—	3546-1/8I	3546-1/8HIM	—
BSP 1/4 - 19	3546-1/4K	87,97	1.5	0.38	10	—	3546-1/4I	3546-1/4HIM	—
BSP 3/8 - 19	3546-3/8K	101,10	1.5	0.56	10	—	3546-3/8I	3546-3/8HIM	—
BSP 1/2 - 14	3546-1/2K	132,90	1.5	0.75	10	—	3546-1/2I	3546-1/2HIM	—
BSP 5/8 - 14	3546-5/8K	272,83	1.5	0.94	10	—	3546-5/8I	3546-5/8HIM	—
BSP 3/4 - 14	3546-3/4K	285,88	1.5	1.13	10	—	3546-3/4I	3546-3/4HIM	—
BSP 7/8 - 14	3546-7/8K	382,65	1.5	1.31	10	—	3546-7/8I	3546-7/8HIM	—
BSP 1 - 11	3546-1K	382,65	1.5	1.50	10	—	3546-1I	3546-1HIM	—



		€	D	"	Unit	mm			
NPT	Ref.				Contenido / Content / Contenu				
NPT 1/8 - 27	3552-1/8K	202,56	1.5	0.188	10	—	3552-1/8I	3552-1/8HIM	—
NPT 1/4 - 18	3552-1/4K	228,98	1.5	0.375	10	—	3552-1/4I	3552-1/4HIM	—
NPT 3/8 - 18	3552-3/8K	290,64	1.5	0.563	10	—	3552-3/8I	3552-3/8HIM	—
NPT 1/2 - 14	3552-1/2K	379,95	1.5	0.750	10	—	3552-1/2I	3552-1/2HIM	—
NPT 3/4 - 14	3552-3/4K	464,38	1.5	1.125	10	—	3552-3/4I	3552-3/4HIM	—
NPT 1 - 11.1/2	3552-1K	616,35	1.5	1.500	10	—	3552-1I	3552-1HIM	—










		Ref.	€	D	"	Unit	mm	Contenido / Content / Contenu		
8 - UN		Ref.								
UN 1.1/8 - 8		3570-1.1/8K	464,38	1.5	1.688	5	—	3570-1.1/8I	3570-1.1/8HIM	—
UN 1.1/4 - 8		3570-1.1/4K	565,70	1.5	1.875	5	—	3570-1.1/4I	3570-1.1/4HIM	—
UN 1.3/8 - 8		3570-1.3/8K	700,79	1.5	2.062	5	—	3570-1.3/8I	3570-1.3/8HIM	—
UN 1.1/2 - 8		3570-1.1/2K	616,35	1.5	2.250	5	—	3570-1.1/2I	3570-1.1/2HIM	—
UN 1.5/8 - 8		3570-1.5/8K	869,65	1.5	2.438	5	—	3570-1.5/8I	3570-1.5/8HIM	—
UN 1.3/4 - 8		3570-1.3/4K	903,43	1.5	2.625	5	—	3570-1.3/4I	3570-1.3/4HIM	—
UN 1.7/8 - 8		3570-1.7/8K	1.021,63	1.5	2.812	5	—	3570-1.7/8I	3570-1.7/8HIM	—
UN 2 - 8		3570-2K	1.139,84	1.5	3.000	5	—	3570-2I	3570-2HIM	—

		Ref.	€	D	"	Unit	mm	Contenido / Content / Contenu		
BA		Ref.								
BA 0		3544-0K	99,16	1.5	0.354	20	6.2	3544-0I	3500-HIT9	3500-TB11
BA 2		3544-2K	99,16	1.5	0.278	20	4.9	3544-2I	3500-HIT7	3500-TB8
BA 4		3544-4K	99,16	1.5	0.213	20	3.8	3544-4I	3500-HIT5	3500-TB5
BA 6		3544-6K	108,95	1.5	0.165	20	2.9	3544-6I	3500-HIT3	3500-TB3

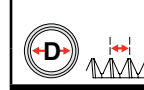






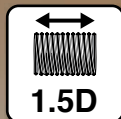
		€	D	"	Unit	mm			
BSB	Ref.				Contenido / Content / Contenu				
BSB 1/4 - 26	3560-1/4K	121,36	1.5	0.375	20	6.6	3560-1/4I	3500-HIT10	3500-TB9
BSB 5/16 - 26	3560-5/16K	96,44	1.5	0.469	20	8.0	3560-5/16I	3500-HIT11	3500-TB12
BSB 3/8 - 26	3560-3/8K	104,47	1.5	0.563	15	9.8	3560-3/8I	3500-HIT13	3500-TB13
BSB 7/16 - 26	3560-7/16K	112,52	1.5	0.656	10	11.1	3560-7/16I	3500-HIT14	3500-TB14
BSB 1/2 - 26	3560-1/2K	120,56	1.5	0.750	10	12.7	3560-1/2I	3500-HIT15	3500-TB15



BUJÍA
SPARK PLUG
BOUGIE



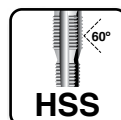
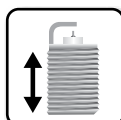
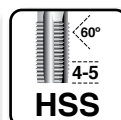
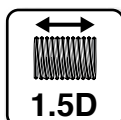
		€	D	mm	Unit	mm			
M/MF	Ref.				Contenido / Content / Contenu				
10 x 1.00	3522-10.00K	88,02	-	1/2	5	-	3520-10.00PN	3500-HIT13	3500-TB13
			-	0.339	5	-	-	-	-
12 x 1.25	3522-12.00K	107,28	-	1/2	5	-	3522-12.00PN	3500-HIT15	3500-TB15
			-	3/4	5	-	-	-	-
14 x 1.25	3522-14.00K	115,08	-	3/8	5	-	3522-14.00PN	3500-HIT17	-
			-	1/2	5	-	-	-	-
			-	3/4	5	-	-	-	-
18 x 1.50	3522-18.00K	174,16	-	1/2	5	-	3522-18.00PN	3500-HIT20	-
14 x 1.25	3522-14.00K1	92,80	8.4	-	5	-	3522-14.00PN	3500-HIT17	-
			12.4	-	5	-	-	-	-
			16.4	-	5	-	-	-	-



Ref. 3520-WK1
284,38 €

		D	mm
M/MF			
M 5 x 0.80	1.5	7.50	
M 6 x 1.00	1.5	9.00	
M 8 x 1.25	1.5	12.00	
M 10 x 1.50	1.5	15.00	
M 12 x 1.75	1.5	18.00	







Unit	mm			
SET M6 - M12				
25	5.2	3520-5.00I	3500-HIT8	3500-TB8
25	6.3	3520-6.00I	3500-HIT9	3500-TB9
25	8.3	3520-8.00I	3500-HIT11	3500-TB12
25	10.4	3520-10.00I	3500-HIT13	3500-TB13
10	12.4	3520-12.00I	3500-HIT15	3500-TB15

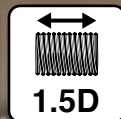





**BUJÍA
SPARK PLUG
BOUGIE**






Ref. 3522-WK4
327,72 €

		D	mm
M/MF			
M 6 x 1.00	1.5	9.00	
M 8 x 1.25	1.5	12.00	
M 10 x 1.50	1.5	15.00	
M 12 x 1.75	1.5	18.00	
M 14 x 1.25	-	8.40	
	-	12.40	
	-	16.40	

					
Unit	mm				
SET BUJÍAS / SPARK PLUG / BOUGIES M6 - M12 + M14 X 1.25					
25	6.3	3520-6.00I	-	3500-HIT9	3500-TB9
25	8.3	3520-8.00I	-	3500-HIT11	3500-TB12
25	10.4	3520-10.00I	-	3500-HIT13	3500-TB13
10	12.4	3520-12.00I	-	3500-HIT15	3500-TB15
5	-	-	3522-14.00PN	3500-HIT17	-
5	-	-	-	-	-
5	-	-	-	-	-



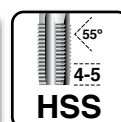
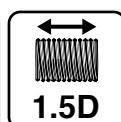
		
D	"	
UNC		
UNC 1/4 - 20	1.5	0.38
UNC 5/16 - 18	1.5	0.47
UNC 3/8 - 16	1.5	0.56
UNC 7/16 - 14	1.5	0.66
UNC 1/2 - 13	1.5	0.75
UNF		
UNF 1/4 - 28	1.5	0.38
UNF 5/16 - 24	1.5	0.47
UNF 3/8 - 24	1.5	0.56
UNF 7/16 - 20	1.5	0.66
UNF 1/2 - 20	1.5	0.75




				
Unit	mm			
SET UNC 1/4" - 1/2"				
25	6.7	3532-1/4I	3500-HIT9	3500-TB9
25	8.3	3532-5/16I	3500-HIT10	3500-TB12
25	9.9	3532-3/8I	3500-HIT13	3500-TB12
10	11.6	3532-7/16I	3500-HIT14	3500-TB14
10	13.0	3532-1/2I	3500-HIT15	3500-TB15
SET UNF 1/4" - 1/2"				
25	6.7	3534-1/4I	3500-HIT9	3500-TB9
25	8.3	3534-5/16I	3500-HIT11	3500-TB12
25	9.8	3534-3/8I	3500-HIT13	3500-TB13
10	11.5	3534-7/16I	3500-HIT14	3500-TB14
10	13.0	3534-1/2I	3500-HIT15	3500-TB15








Ref. 3532-WK1
355,39 €

Ref. 3534-WK1
355,39 €



		
D	"	
BSW		
BSW 1/4 - 20	1.5	0.38
BSW 5/16 - 18	1.5	0.47
BSW 3/8 - 16	1.5	0.56
BSW 7/16 - 14	1.5	0.66
BSW 1/2 - 12	1.5	0.75
BSF		
BSF 1/4 - 26	1.5	0.38
BSF 5/16 - 22	1.5	0.47
BSF 3/8 - 20	1.5	0.56
BSF 7/16 - 18	1.5	0.66
BSF 1/2 - 16	1.5	0.75

				
Unit	mm			
SET BSW 1/4" - 1/2"				
25	6.7	3528-1/4I	3500-HIT9	3500-TB9
25	8.3	3528-5/16I	3500-HIT10	3500-TB11
25	9.9	3528-3/8I	3500-HIT11	3500-TB12
10	11.5	3528-7/16I	3500-HIT14	3500-TB14
10	13.0	3528-1/2I	3500-HIT15	3500-TB15
SET BSF 1/4" - 1/2"				
25	6.6	3530-1/4I	3500-HIT9	3500-TB9
25	8.3	3530-5/16I	3500-HIT11	3500-TB11
25	9.9	3530-3/8I	3500-HIT13	3500-TB12
10	11.5	3530-7/16I	3500-HIT14	3500-TB14
10	13.0	3530-1/2I	3500-HIT15	3500-TB15

Ref. 3528-WK1
355,39 €

Ref. 3530-WK1
355,39 €



Dimensiones: ancho 570 x fondo 450 x alto 1830 mm.
Dimensions: width 570 x depth 450 x height 1830 mm.
Dimensions: largeur 570 x profondeur 450 x hauteur 1830 mm.

Ref. 3500-D1

1.917,82 €

CONTENIDO DEL EXPOSITOR / DISPLAY CONTENT / CONTENU DU PRÉSENTOIR		
ESTUCHES / SETS / COFFRETS		
M/MF		
1 Unit.	M4x0.7	3520-4.00K
1 Unit.	M5x0.8	3520-5.00K
1 Unit.	M6x1.0	3520-6.00K
1 Unit.	M8x1.25	3520-8.00K
1 Unit.	M10x1.25	3521-10.00K
1 Unit.	M10x1.5	3520-10.00K
1 Unit.	M12x1.5	3521-12.00K
1 Unit.	M12x1.75	3520-12.00K
1 Unit.	M16x2.0	3520-16.00K
BUJÍA / SPARK PLUG / BOUGIE		
1 Unit.	M12x1.25	3522-12.00K
1 Unit.	M14x1.25	3522-14.00K
UNC		
1 Unit.	UNC 1/4x20	3532-1/4K
1 Unit.	UNC 5/16x18	3532-5/16K
1 Unit.	UNC 3/8x16	3532-3/8K
1 Unit.	UNC 7/16x14	3532-7/16K
1 Unit.	UNC 1/2x13	3532-1/2K
1 Unit.	UNC 5/8x11	3532-5/8K
1 Unit.	UNC 3/4x10	3532-3/4K
UNF		
1 Unit.	UNF 1/4x28	3534-1/4K
1 Unit.	UNF 5/16x24	3534-5/16K
1 Unit.	UNF 3/8x24	3534-3/8K
1 Unit.	UNF 7/16x20	3534-7/16K
1 Unit.	UNF 1/2x20	3534-1/2K
BSW		
1 Unit.	BSW 1/2x12	3528-1/2K
BLISTERS		
M/MF		
1 Unit.	M4x0.7-1.5D	3520-4.00x1.5DP
1 Unit.	M5x0.8-1.5D	3520-5.00x1.5DP
1 Unit.	M6x1.0-1.5D	3520-6.00x1.5DP
1 Unit.	M6x1.0-2.0D	3520-6.00x2.0DP
1 Unit.	M8x1.25-1.5D	3520-8.00x1.5DP
1 Unit.	M8x1.25-2.0D	3520-8.00x2.0DP
1 Unit.	M10x1.25-1.5D	3521-10.00x1.5DP
1 Unit.	M10x1.5-1.5D	3520-10.00x1.5DP
1 Unit.	M12x1.5-1.5D	3521-12.00x1.5DP
1 Unit.	M12x1.75-1.5D	3520-12.00x1.5DP
1 Unit.	M16x2.0-1.5D	3520-16.00x1.5DP
BUJÍA / SPARK PLUG / BOUGIE		
1 Unit.	M14x1.25-8.4	3522-14.00x8.4P
1 Unit.	M14x1.25-12.4	3522-14.00x12.4P
1 Unit.	M14x1.25-16.4	3522-14.00x16.4P
UNC		
1 Unit.	UNC 1/4x20-1.5D	3532-1/4x1.5DP
1 Unit.	UNC 5/16x18-1.5D	3532-5/16x1.5DP
1 Unit.	UNC 3/8x16-1.5D	3532-3/8x1.5DP
1 Unit.	UNC 3/8 x 16-2.0D	3532-3/8x2.0DP
1 Unit.	UNC 7/16x14-1.5D	3532-7/16x1.5DP
1 Unit.	UNC 1/2x13-1.5D	3532-1/2x1.5DP
1 Unit.	UNC 5/8x11-1.5D	3532-5/8x1.5DP
1 Unit.	UNC 3/4x10-1.5D	3532-3/4x1.5DP
UNF		
1 Unit.	UNF 1/4x28-1.5D	3534-1/4x1.5DP
1 Unit.	UNF 5/16x24-1.5D	3534-5/16x1.5DP
1 Unit.	UNF 3/8x24-1.5D	3534-3/8x1.5DP
1 Unit.	UNF 7/16x20-1.5D	3534-7/16x1.5DP
1 Unit.	UNF 1/2x20-1.5D	3534-1/2x1.5DP
BSW		
1 Unit.	BSW 1/2x12-1.5D	3528-1/2x1.5DP

Expositores especiales bajo demanda / Special displays on request / Présentoirs spécifiques sur demande



CONTENIDO DEL EXPOSITOR / DISPLAY CONTENT / CONTENU DU PRÉSENTOIR		
ESTUCHES / SETS / COFFRETS		
M/MF		
1 Unit.	M3x0.5	3520-3.00K
1 Unit.	M4x0.7	3520-4.00K
1 Unit.	M5x0.8	3520-5.00K
1 Unit.	M6x1.0	3520-6.00K
1 Unit.	M8x1.25	3520-8.00K
1 Unit.	M10x1.5	3520-10.00K
1 Unit.	M12x1.75	3520-12.00K
1 Unit.	M14x1.5	3521-14.00K
1 Unit.	M14x2.0	3520-14.00K
1 Unit.	M16x2.0	3520-16.00K
BUJÍA / SPARK PLUG / BOUGIE		
1 Unit.	M14x1.25	3522-14.00K
UNC		
1 Unit.	UNC N°6x32	3532-6GK
1 Unit.	UNC N°8x32	3532-8GK
1 Unit.	UNC N°10x24	3532-10GK
1 Unit.	UNC 1/4x20	3532-1/4K
1 Unit.	UNC 5/16x18	3532-5/16K
1 Unit.	UNC 3/8x16	3532-3/8K
1 Unit.	UNC 7/16x14	3532-7/16K
1 Unit.	UNC 1/2x13	3532-1/2K
1 Unit.	UNC 5/8x11	3532-5/8K
1 Unit.	UNC 3/4x10	3532-3/4K
UNF		
1 Unit.	UNF N°10x32	3534-10G
1 Unit.	UNF 7/16x20	3534-7/16K
BLISTERS		
M/MF		
1 Unit.	M3x0.5-1.5D	3520-3.00x1.5DP
1 Unit.	M4x0.7-1.5D	3520-4.00x1.5DP
1 Unit.	M5x0.8-1.5D	3520-5.00x1.5DP
1 Unit.	M6x1.0-1.5D	3520-6.00x1.5DP
1 Unit.	M8x1.25-1.5D	3520-8.00x1.5DP
1 Unit.	M10x1.5-1.5D	3520-10.00x1.5DP
1 Unit.	M12x1.75-1.5D	3520-12.00x1.5DP
1 Unit.	M14x1.5-1.5D	3521-14.00x1.5DP
1 Unit.	M14x2.0-1.5D	3520-14.00x1.5DP
1 Unit.	M16x2.0-1.5D	3520-16.00x1.5DP
BUJÍA / SPARK PLUG / BOUGIE		
1 Unit.	M14x1.25-8.4	3522-14.00x8.4P
1 Unit.	M14x1.25-12.4	3522-14.00x12.4P
1 Unit.	M14x1.25-16.4	3522-14.00x16.4P
UNC		
1 Unit.	UNC N°6x32-1.5D	3532-6Gx1.5DP
1 Unit.	UNC N°8x32-1.5D	3532-8Gx1.5DP
1 Unit.	UNC N°10x24-1.5D	3532-10Gx1.5DP
1 Unit.	UNC 1/4x20-1.5D	3532-1/4x1.5DP
1 Unit.	UNC 5/16x18-1.5D	3532-5/16x1.5DP
1 Unit.	UNC 3/8x16-1.5D	3532-3/8x1.5DP
1 Unit.	UNC 7/16x14-1.5D	3532-7/16x1.5DP
1 Unit.	UNC 1/2x13-1.5D	3532-1/2x1.5DP
1 Unit.	UNC 5/8x11-1.5D	3532-5/8x1.5DP
1 Unit.	UNC 3/4x10-1.5D	3532-3/4x1.5DP
UNF		
1 Unit.	UNF N°10x32-1.5D	3534-10Gx1.5DP
1 Unit.	UNF 7/16x20-1.5D	3534-7/16x1.5DP

Expositores especiales bajo demanda / Special displays on request / Présentoirs spécifiques sur demande









Dimensiones: ancho 570 x fondo 450 x alto 1830 mm.
Dimensions: width 570 x depth 450 x height 1830 mm.
Dimensions: largeur 570 x profondeur 450 x hauteur 1830 mm.

Ref. 3500-USD1

1.724,77 €









																							
																							
CONTENIDO DEL EXPOSITOR / DISPLAY CONTENT / CONTENU DU PRÉSENTOIR																							
ESTUCHES / SETS / COFFRETS												BLISTERS											
M/MF												M/MF											
1 Unit.				M5x0.8				3520-5.00K				1 Unit.				M5x0.8-1.5D				3520-5.00x1.5DP			
1 Unit.				M6x1.0				3520-6.00K				1 Unit.				M6x1.0-1.5D				3520-6.00x1.5DP			
1 Unit.				M8x1.25				3520-8.00K				1 Unit.				M6x1.0-2.0D				3520-6.00x2.0DP			
1 Unit.				M8x1.25				3520-8.00K				1 Unit.				M8x1.25-1.5D				3520-8.00x1.5DP			
1 Unit.				M8x1.25-2.0D				3520-8.00x2.0DP				1 Unit.				M8x1.25-2.0D				3520-8.00x2.0DP			
1 Unit.				M10x1.25				3521-10.00K				1 Unit.				M10x1.25-1.5D				3521-10.00x1.5DP			
1 Unit.				M10x1.5				3520-10.00K				1 Unit.				M10x1.25-1.5D				3521-10.00x1.5DP			
1 Unit.				M10x1.5-1.5D				3520-10.00x1.5DP				1 Unit.				M10x1.5-1.5D				3520-10.00x1.5DP			
1 Unit.				M12x1.75				3520-12.00K				1 Unit.				M12x1.75-1.5D				3520-12.00x1.5DP			
1 Unit.				M16x2.0				3520-16.00K				1 Unit.				M16x2.0-1.5D				3520-16.00x1.5DP			
BUJÍA / SPARK PLUG / BOUGIE												BUJÍA / SPARK PLUG / BOUGIE											
1 Unit.				M14x1.25				3522-14.00K				1 Unit.				M14x1.25-8.4				3522-14.00x8.4P			
1 Unit.				M14x1.25-12.4				3522-14.00x12.4P				1 Unit.				M14x1.25-12.4				3522-14.00x12.4P			
1 Unit.				M14x1.25-16.4				3522-14.00x16.4P				1 Unit.				M14x1.25-16.4				3522-14.00x16.4P			
UNC												UNC											
1 Unit.				UNC 1/4x20				3532-1/4K				1 Unit.				UNC 1/4x20-1.5D				3532-1/4x1.5DP			
1 Unit.				UNC 5/16x18				3532-5/16K				1 Unit.				UNC 5/16x18-1.5D				3532-5/16x1.5DP			
1 Unit.				UNC 3/8x16				3532-3/8K				1 Unit.				UNC 3/8x16-1.5D				3532-3/8x1.5DP			
1 Unit.				UNC 7/16x14				3532-7/16K				1 Unit.				UNC 7/16x14-1.5D				3532-7/16x1.5DP			
1 Unit.				UNC 1/2x13				3532-1/2K				1 Unit.				UNC 1/2x13-1.5D				3532-1/2x1.5DP			
1 Unit.				UNC 5/8x11				3532-5/8K				1 Unit.				UNC 1/2x13-1.5D				3532-1/2x1.5DP			
1 Unit.				UNC 5/8x11-1.5D				3532-5/8x1.5DP				1 Unit.				UNC 5/8x11-1.5D				3532-5/8x1.5DP			
UNF												UNF											
1 Unit.				UNF 5/16x24				3534-5/16K				1 Unit.				UNF 5/16x24-1.5D				3534-5/16x1.5DP			
1 Unit.				UNF 3/8x24				3534-3/8K				1 Unit.				UNF 3/8x24-1.5D				3534-3/8x1.5DP			

Ref. 3500-D3

1.204,91 €



					
CONTENIDO DEL EXPOSITOR / DISPLAY CONTENT / CONTENU DU PRÉSENTOIR					
ESTUCHES / SETS / COFFRETS			BLISTERS		
M/MF			M/MF		
1 Unit.	M5x0.8	3520-5.00K	1 Unit.	M4x0.7-1.5D	3520-4.00x1.5DP
1 Unit.	M6x1.0	3520-6.00K	1 Unit.	M5x0.8-1.5D	3520-5.00x1.5DP
1 Unit.	M8x1.25	3520-8.00K	1 Unit.	M6x1.0-1.5D	3520-6.00x1.5DP
1 Unit.	M10x1.5	3520-10.00K	1 Unit.	M8x1.25-1.5D	3520-8.00x1.5DP
1 Unit.	M12x1.75	3520-12.00K	1 Unit.	M10x1.5-1.5D	3520-10.00x1.5DP
BUJÍA / SPARK PLUG / BOUGIE			BUJÍA / SPARK PLUG / BOUGIE		
1 Unit.	M14x1.25	3522-14.00K	1 Unit.	M14x1.25-8.4	3522-14.00x8.4P
			1 Unit.	M14x1.25-12.4	3522-14.00x12.4P
			1 Unit.	M14x1.25-16.4	3522-14.00x16.4P
UNC			UNC		
1 Unit.	UNC 1/4x20	3532-1/4K	1 Unit.	UNC 1/4x20-1.5D	3532-1/4x1.5DP
1 Unit.	UNC 5/16x18	3532-5/16K	1 Unit.	UNC 5/16x18-1.5D	3532-5/16x1.5DP
1 Unit.	UNC 3/8x16	3532-3/8K	1 Unit.	UNC 3/8x16-1.5D	3532-3/8x1.5DP
1 Unit.	UNC 1/2x13	3532-1/2K	1 Unit.	UNC 1/2x13-1.5D	3532-1/2x1.5DP
UNF			UNF		
1 Unit.	UNF N°10x32	3534-10G	1 Unit.	UNF N°10x32-1.5D	3534-10Gx1.5DP

Dimensiones: ancho 570 x fondo 450 x alto 1830 mm.

Dimensions: width 570 x depth 450 x height 1830 mm.

Dimensions: largeur 570 x profondeur 450 x hauteur 1830 mm.

Ref. 3500-USD2

762,67 €





CONTENIDO DEL EXPOSITOR DISPLAY CONTENT / CONTENU DU PRÉSENTOIR		
ESTUCHES / SETS / COFFRETS		
M/MF		
4 Unit.	M3x0.5	3520-3.00K
4 Unit.	M4x0.7	3520-4.00K
4 Unit.	M5x0.8	3520-5.00K
3 Unit.	M6x1.0	3520-6.00K
3 Unit.	M8x1.25	3520-8.00K
3 Unit.	M10x1.5	3520-10.00K
2 Unit.	M12x1.75	3520-12.00K
2 Unit.	M14x2.0	3520-14.00K
BUJÍA / SPARK PLUG / BOUGIE		
2 Unit.	M14x1.25	3522-14.00K



Ref. 1-87

1.475,34 €



CONTENIDO DEL EXPOSITOR / DISPLAY CONTENT / CONTENU DU PRÉSENTOIR					
ESTUCHES / SETS / COFFRETS			BLISTERS		
M/MF			M/MF		
4 Unit.	M3x0.5	3520-3.00K	5 Unit.	M4x0.7-1.5D	3520-4.00x1.5DP
4 Unit.	M4x0.7	3520-4.00K	5 Unit.	M5x0.8-1.5D	3520-5.00x1.5DP
4 Unit.	M5x0.8	3520-5.00K	5 Unit.	M6x1.0-1.5D	3520-6.00x1.5DP
4 Unit.	M6x1.0	3520-6.00K	5 Unit.	M8x1.25-1.5D	3520-8.00x1.5DP
3 Unit.	M8x1.25	3520-8.00K	5 Unit.	M10x1.50-1.5D	3521-10.00x1.5DP
3 Unit.	M10x1.5	3520-10.00K	5 Unit.	M12x1.75-1.5D	3520-12.00x1.5DP



Ref. 1-88

1.109,65 €

CONTENIDO DEL EXPOSITOR / DISPLAY CONTENT / CONTENU DU PRÉSENTOIR					
ESTUCHES / SETS / COFFRETS			BLISTERS		
M/MF			M/MF		
4 Unit.	M5x0.8	3520-5.00K	5 Unit.	M3x0.5-1.5D	3520-3.00x1.5DP
4 Unit.	M6x1.0	3520-6.00K	5 Unit.	M4x0.7-1.5D	3520-4.00x1.5DP
3 Unit.	M8x1.25	3520-8.00K	5 Unit.	M5x0.8-1.5D	3520-5.00x1.5DP
			5 Unit.	M6x1.0-1.0D	3520-6.00x1.0DP
			5 Unit.	M6x1.0-1.5D	3520-6.00x1.5DP
			3 Unit.	M8x1.25-1.0D	3520-8.00x1.0DP
			5 Unit.	M8x1.25-2.0D	3520-8.00x2.0DP
			5 Unit.	M10x1.5-1.5D	3520-10.00x1.5DP
			5 Unit.	M10x1.5-2.0D	3521-10.00x2.0DP
			5 Unit.	M12x1.75-1.5D	3520-12.00x1.5DP
			3 Unit.	M16x2.0-1.5D	3520-16.00x2.0DP
BUJÍA / SPARK PLUG / BOUGIE			BUJÍA / SPARK PLUG / BOUGIE		
			5 Unit.	M14x1.25-1/2"	M14x1.25-1/2P








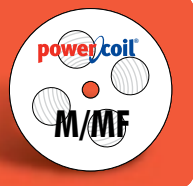
330 x 360 x 515 mm.

Ref. 1-89

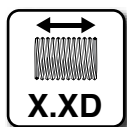
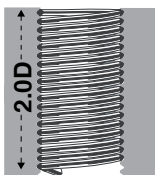
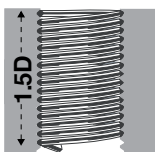
745,76 €



		Ref.	Unit.	 1.0D		 1.5D		 2.0D	
				mm	€	mm	€	mm	€
M/MF									
M 2.20 x 0.45		3520-2.20	1000	2.20	354,33	3.30	359,46	4.40	387,71
M 2.50 x 0.45		3520-2.50	1000	2.50	169,72	3.75	182,30	5.00	205,41
M 3 x 0.50		3520-3.00	1000	3.00	159,19	4.50	182,30	6.00	197,70
M 4 x 0.70		3520-4.00	1000	4.00	156,63	6.00	166,89	8.00	184,86
M 5 x 0.80		3520-5.00	1000	5.00	156,63	7.50	185,12	10.00	200,66
M 6 x 1.00		3520-6.00	500	6.00	115,54	9.00	103,99	12.00	150,20
M 8 x 1.00		3521-8.00	250	8.00	80,88	12.00	86,32	16.00	109,65
M 8 x 1.25		3520-8.00	250	8.00	68,04	12.00	74,66	16.00	102,65
M 10 x 1.50		3520-10.00	250	10.00	90,50	15.00	102,65	20.00	118,99
M 12 x 1.75		3520-12.00	125	12.00	64,19	18.00	76,07	24.00	89,81



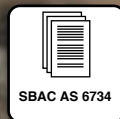
← 1.0D →



Ejemplo de Codificación: CARRETE
Coding Example: REEL
Exemple de Codification: ROULEAUX-CHARGEUR

	 1.0D	 1.5D	 2.0D
M 6 x 1.00	3520-6.00x1.0DIR	3520-6.00x1.5DIR	3520-6.00x2.0DIR

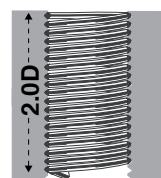
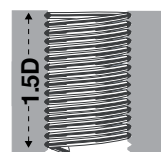
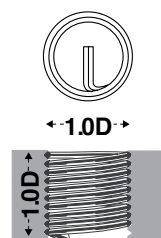




				1.0D		1.5D		2.0D
		Unit.	"	€	"	€	"	€
UNC	Ref.							
UNC N°2 - 56	3532-2G	1000	0.09	520,76	0.13	609,67	0.17	787,48
UNC N°4 - 40	3532-4G	1000	0.11	203,22	0.17	190,52	0.22	203,22
UNC N°5 - 40	3532-5G	1000	0.13	209,57	0.19	222,27	0.25	234,98
UNC N°6 - 32	3532-6G	1000	0.14	170,11	0.21	190,52	0.28	204,13
UNC N°8 - 32	3532-8G	1000	0.16	170,11	0.25	190,52	0.33	204,13
UNC N°10 - 24	3532-10G	1000	0.19	203,22	0.29	203,22	0.38	222,27
UNC 1/4 - 20	3532-1/4	500	0.25	131,74	0.38	147,70	0.50	159,68
UNC 5/16 - 18	3532-5/16	250	0.31	99,80	0.47	120,21	0.62	127,01
UNC 3/8 - 16	3532-3/8	250	0.38	154,23	0.57	154,23	0.76	201,87

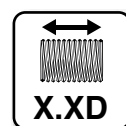


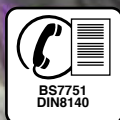
				1.0D		1.5D		2.0D
		Unit.	"	€	"	€	"	€
UNF	Ref.							
UNF N°4 - 48	3534-4G	1000	0.11	465,03	0.17	527,87	0.22	703,83
UNF N°6 - 40	3534-6G	1000	0.14	465,03	0.21	527,87	0.28	703,83
UNF N°8 - 36	3534-8G	1000	0.16	465,03	0.25	527,87	0.33	703,83
UNF N°10 - 32	3534-10G	1000	0.19	201,09	0.29	207,38	0.38	251,37
UNF 1/4 - 28	3534-1/4	500	0.25	126,41	0.38	130,35	0.50	158,00
UNF 5/16 - 24	3534-5/16	250	0.31	98,75	0.47	105,48	0.62	125,68
UNF 3/8 - 24	3534-3/8	250	0.38	145,89	0.57	152,62	0.76	184,04



		1.0D		1.5D		2.0D
UNC 1/4 - 20	3532-1/4x1.0DIR		3532-1/4x1.5DIR		3532-1/4x2.0DIR	

Ejemplo de Codificación: CARRETE
Coding Example: REEL
Exemple de Codification: ROULEAUX-CHARGEUR

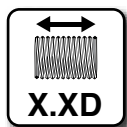
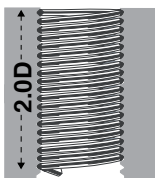
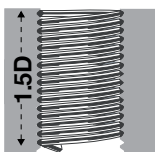




		Ref.	Unit.	1.0D		1.5D		2.0D	
				mm	€	mm	€	mm	€
M	2.20 x 0.45	3520-2.20	1000	2.20	439,09	3.30	513,51	4.40	539,19
M	2.50 x 0.45	3520-2.50	1000	2.50	231,75	3.75	282,43	5.00	308,11
M	3 x 0.50	3520-3.00	1000	3.00	195,16	4.50	224,36	6.00	256,75
M	4 x 0.70	3520-4.00	1000	4.00	219,55	6.00	231,08	8.00	231,08
M	5 x 0.80	3520-5.00	1000	5.00	219,55	7.50	243,92	10.00	282,43
M	6 x 1.00	3520-6.00	500	6.00	146,13	9.00	162,39	12.00	183,50
M	8 x 1.00	3521-8.00	250	8.00	103,68	12.00	115,54	16.00	131,58
M	8 x 1.25	3520-8.00	250	8.00	86,44	12.00	102,65	16.00	120,03
M	10 x 1.50	3520-10.00	250	10.00	108,61	15.00	141,21	20.00	142,77
M	12 x 1.75	3520-12.00	125	12.00	79,80	18.00	99,49	24.00	108,48

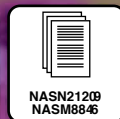







← 1.0D →








Ejemplo de Codificación: CARRETE AUTOBLOCANTE
 Coding Example: SCREW LOCKING REEL
 Exemple de Codification: ROULEAUX-CHARGEUR À FREIN

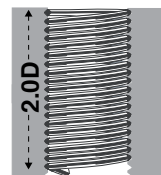
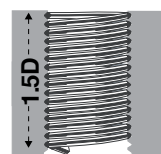
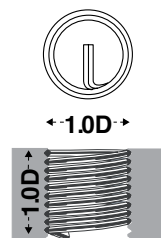
	1.0D	1.5D	2.0D
M 3 x 0.50	3520-3.00x1.0DIRSL	3520-3.00x1.5DIRSL	3520-3.00x2.0DIRSL






				1.0D		1.5D		2.0D
		Unit.	"	€	"	€	"	€
UNC	Ref.							
UNC N°2 - 56	3532-2G	1000	0.09	624,91	0.13	731,60	0.17	944,99
UNC N°4 - 40	3532-4G	1000	0.11	243,86	0.17	228,62	0.22	243,86
UNC N°5 - 40	3532-5G	1000	0.13	291,92	0.19	308,89	0.25	281,97
UNC N°6 - 32	3532-6G	1000	0.14	204,13	0.21	228,62	0.28	244,96
UNC N°8 - 32	3532-8G	1000	0.16	204,13	0.25	228,62	0.33	244,96
UNC N°10 - 24	3532-10G	1000	0.19	243,86	0.29	243,86	0.38	266,73
UNC 1/4 - 20	3532-1/4	500	0.25	159,66	0.38	179,00	0.50	193,51
UNC 5/16 - 18	3532-5/16	250	0.31	123,18	0.47	148,38	0.62	156,77
UNC 3/8 - 16	3532-3/8	250	0.38	190,37	0.57	190,37	0.76	249,16

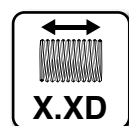


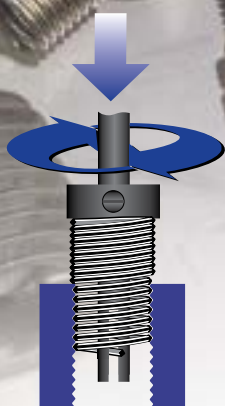
				1.0D		1.5D		2.0D
		Unit.	"	€	"	€	"	€
UNF	Ref.							
UNF N°4 - 48	3534-4G	1000	0.11	558,04	0.17	633,45	0.22	844,60
UNF N°6 - 40	3534-6G	1000	0.14	558,04	0.21	633,45	0.28	844,60
UNF N°8 - 36	3534-8G	1000	0.16	558,04	0.25	633,45	0.33	844,60
UNF N°10 - 32	3534-10G	1000	0.19	241,31	0.29	248,86	0.38	301,64
UNF 1/4 - 28	3534-1/4	500	0.25	154,27	0.38	159,10	0.50	192,84
UNF 5/16 - 24	3534-5/16	250	0.31	123,18	0.47	131,58	0.62	156,77
UNF 3/8 - 24	3534-3/8	250	0.38	181,97	0.57	190,37	0.76	229,56



			
UNF 1/4 - 28	3534-1/4x1.0DIRSL	3534-1/4x1.5DIRSL	3534-1/4x2.0DIRSL

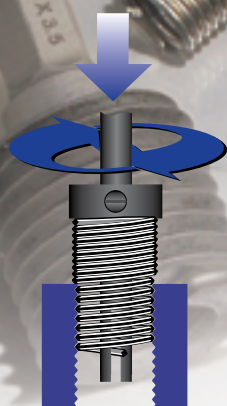
Ejemplo de Codificación: CARRETE AUTOBLOCANTE
 Coding Example: SCREW LOCKING REEL
 Exemple de Codification: ROULEAUX-CHARGEUR À FREIN



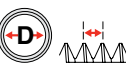


		€		€		€		€		€
M/MF	Ref.		Ref.		Ref.		Ref.		Ref.	
M 2.20 x 0.45	3520-2.20MIP	359,84	3520-2.20MIPM	131,34	3520-2.20MIPN	229,39	3500-MIP1	1.410,98	-	-
M 2.50 x 0.45	3520-2.50MIP	229,39	3520-2.50MIPM	82,76	3520-2.50MIPN	147,53	3500-MIP1	1.410,98	-	-
M 3 x 0.50	3520-3.00MIP	229,39	3520-3.00MIPM	82,76	3520-3.00MIPN	147,53	3500-MIP1	1.410,98	-	-
M 3.50 x 0.60	3520-3.50MIP	359,84	3520-3.50MIPM	131,34	3520-3.50MIPN	229,39	3500-MIP1	1.410,98	-	-
M 4 x 0.70	3520-4.00MIP	229,39	3520-4.00MIPM	82,76	3520-4.00MIPN	147,53	3500-MIP1	1.410,98	-	-
M 5 x 0.80	3520-5.00MIP	229,39	3520-5.00MIPM	82,76	3520-5.00MIPN	147,53	3500-MIP1	1.410,98	-	-
M 6 x 1.00	3520-6.00MIP	229,39	3520-6.00MIPM	82,76	3520-6.00MIPN	147,53	3500-MIP1	1.410,98	-	-
M 8 x 1.00	3521-8.00MIP	490,27	3521-8.00MIPM	179,91	3521-8.00MIPN	311,26	-	-	3500-MIP2	1.683,66
M 8 x 1.25	3520-8.00MIP	490,27	3520-8.00MIPM	179,91	3520-8.00MIPN	311,26	-	-	3500-MIP2	1.683,66
M 10 x 1.00	3523-10.00MIP	327,44	3523-10.00MIPM	115,15	3523-10.00MIPN	213,20	-	-	3500-MIP2	1.683,66
M 10 x 1.25	3521-10.00MIP	490,27	3521-10.00MIPM	179,91	3521-10.00MIPN	311,26	-	-	3500-MIP2	1.683,66
M 10 x 1.50	3520-10.00MIP	490,27	3520-10.00MIPM	179,91	3520-10.00MIPN	311,26	-	-	3500-MIP2	1.683,66
M 12 x 1.25	3523-12.00MIP	555,95	3523-12.00MIPM	213,20	3523-12.00MIPN	343,64	-	-	3500-MIP2	1.683,66
M 12 x 1.50	3521-12.00MIP	555,95	3521-12.00MIPM	213,20	3521-12.00MIPN	343,64	-	-	3500-MIP2	1.683,66
M 12 x 1.75	3520-12.00MIP	327,44	3520-12.00MIPM	115,15	3520-12.00MIPN	213,20	-	-	3500-MIP2	1.683,66



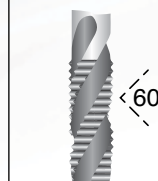
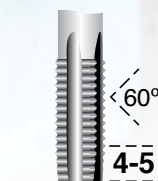
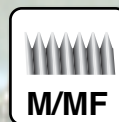
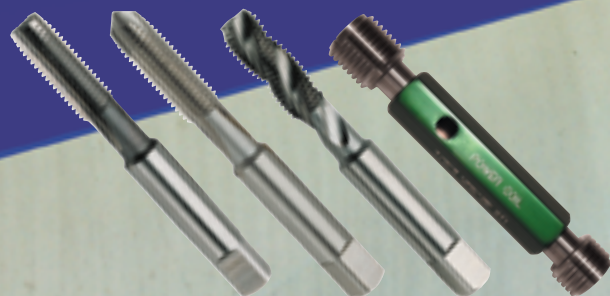


UNC	Ref.	€	Ref.	€	Ref.	€	Ref.	€	Ref.	€
UNC N°2 - 56	3532-2GMIP	338,25	3532-2GMIPM	131,34	3532-2GMIPN	207,80	3500-MIP1	1.410,98	-	-
UNC N°4 - 40	3532-4GMIP	229,39	3532-4GMIPM	82,76	3532-4GMIPN	147,53	3500-MIP1	1.410,98	-	-
UNC N°5 - 40	3532-5GMIP	359,84	3532-5GMIPM	131,34	3532-5GMIPN	229,39	3500-MIP1	1.410,98	-	-
UNC N°6 - 32	3532-6GMIP	229,39	3532-6GMIPM	82,76	3532-6GMIPN	147,53	3500-MIP1	1.410,98	-	-
UNC N°8 - 32	3532-8GMIP	229,39	3532-8GMIPM	82,76	3532-8GMIPN	147,53	3500-MIP1	1.410,98	-	-
UNC N°10 - 24	3532-10GMIP	229,39	3532-10GMIPM	82,76	3532-10GMIPN	147,53	3500-MIP1	1.410,98	-	-
UNC N°12 - 24	3532-12GMIP	229,39	3532-12GMIPM	82,76	3532-12GMIPN	147,53	3500-MIP1	1.410,98	-	-
UNC 1/4 - 20	3532-1/4MIP	229,39	3532-1/4MIPM	82,76	3532-1/4MIPN	147,53	3500-MIP1	1.410,98	-	-
UNC 5/16 - 18	3532-5/16MIP	490,27	3532-5/16MIPM	179,91	3532-5/16MIPN	311,26	-	-	3500-MIP2	1.683,66
UNC 3/8 - 16	3532-3/8MIP	490,27	3532-3/8MIPM	179,91	3532-3/8MIPN	311,26	-	-	3500-MIP2	1.683,66
UNC 7/16 - 14	3532-7/16MIP	555,95	3532-7/16MIPM	213,20	3532-7/16MIPN	343,64	-	-	3500-MIP2	1.683,66
UNC 1/2 - 13	3532-1/2MIP	555,95	3532-1/2MIPM	213,20	3532-1/2MIPN	343,64	-	-	3500-MIP2	1.683,66



UNF	Ref.	€	Ref.	€	Ref.	€	Ref.	€	Ref.	€
UNF N°6 - 40	3534-6GMIP	359,84	3534-6GMIPM	131,34	3534-6GMIPN	229,39	3500-MIP1	1.410,98	-	-
UNF N°8 - 36	3534-8GMIP	229,39	3534-8GMIPM	82,76	3534-8GMIPN	147,53	3500-MIP1	1.410,98	-	-
UNF N°10 - 32	3534-10GMIP	229,39	3534-10GMIPM	82,76	3534-10GMIPN	147,53	3500-MIP1	1.410,98	-	-
UNF 1/4 - 28	3534-1/4MIP	229,39	3534-1/4MIPM	82,76	3534-1/4MIPN	147,53	3500-MIP1	1.410,98	-	-
UNF 5/16 - 24	3534-5/16MIP	490,27	3534-5/16MIPM	179,91	3534-5/16MIPN	311,26	-	-	3500-MIP2	1.683,66
UNF 3/8 - 24	3534-3/8MIP	490,27	3534-3/8MIPM	179,91	3534-3/8MIPN	311,26	-	-	3500-MIP2	1.683,66
UNF 7/16 - 20	3534-7/16MIP	555,95	3534-7/16MIPM	213,20	3534-7/16MIPN	343,64	-	-	3500-MIP2	1.683,66
UNF 1/2 - 20	3534-1/2MIP	555,95	3534-1/2MIPM	213,20	3534-1/2MIPN	343,64	-	-	3500-MIP2	1.683,66

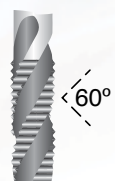
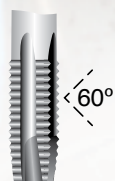
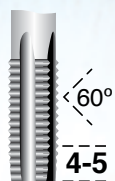




	Dimensions		Mano/Hand/Main	€	F / B	€	35°	€	Calibre / Gauge	€
M/MF	Ø Ext.	Lt x Lc x Ø	Ref.		Ref.		Ref.		Ref.	
M 2 x 0.40	2.52	44x9.5x2.2	3520-2.00I	12,08	3520-2.00SP	15,93	3520-2.00SF	15,93	3520-2.00GC	171,65
M 2.20 x 0.45	2.78	48x11x2.5	3520-2.20I	14,34	3520-2.20SP	15,93	3520-2.20SF	15,93	3520-2.20GC	171,65
M 2.50 x 0.45	3.08	48x11x2.5	3520-2.50I	12,08	3520-2.50SP	15,93	3520-2.50SF	15,93	3520-2.50GC	148,02
M 3 x 0.50	3.65	53x13x3.15	3520-3.00I	10,54	3520-3.00SP	12,08	3520-3.00SF	12,08	3520-3.00GC	140,13
M 3.50 x 0.60	4.27	53x13x3.55	3520-3.50I	10,54	3520-3.50SP	12,08	3520-3.50SF	12,08	3520-3.50GC	140,13
M 4 x 0.70	4.90	58x16x4	3520-4.00I	10,54	3520-4.00SP	12,08	3520-4.00SF	12,08	3520-4.00GC	113,28
M 5 x 0.80	6.03	66x19x5	3520-5.00I	10,54	3520-5.00SP	12,08	3520-5.00SF	12,08	3520-5.00GC	113,28
M 6 x 1.00	7.29	72x22x6.3	3520-6.00I	10,54	3520-6.00SP	12,08	3520-6.00SF	12,08	3520-6.00GC	113,28
M 7 x 1.00	8.29	72x22x7.1	3520-7.00I	13,13	3520-7.00SP	15,14	3520-7.00SF	15,14	3520-7.00GC	166,40
M 8 x 1.00	9.29	80x24x8	3521-8.00I	13,13	3521-8.00SP	15,14	3521-8.00SF	15,14	3521-8.00GC	113,28
M 8 x 1.25	9.62	80x24x8	3520-8.00I	13,13	3520-8.00SP	15,14	3520-8.00SF	15,14	3520-8.00GC	113,28
M 9 x 1.25	10.62	85x25x6.3	3520-9.00I	16,09	3520-9.00SP	23,34	3520-9.00SF	22,49	3520-9.00GC	113,28
M 10 x 1.00	11.29	85x25x6.3	3523-10.00I	16,09	3523-10.00SP	18,21	3523-10.00SF	18,21	3523-10.00GC	176,62
M 10 x 1.25	11.62	85x25x6.3	3521-10.00I	16,09	3521-10.00SP	22,49	3521-10.00SF	22,49	3521-10.00GC	160,39
M 10 x 1.50	11.94	89x29x7.1	3520-10.00I	16,09	3520-10.00SP	18,21	3520-10.00SF	18,21	3520-10.00GC	122,71
M 11 x 1.00	12.29	89x29x7.1	3523-11.00I	21,79	3523-11.00SP	24,26	3523-11.00SF	24,26	3523-11.00GC	220,73
M 11 x 1.25	12.62	89x29x7.1	3521-11.00I	21,88	3521-11.00SP	24,26	3521-11.00SF	24,26	3521-11.00GC	220,73
M 11 x 1.50	12.94	89x29x7.1	3520-11.00I	18,21	3520-11.00SP	24,26	3520-11.00SF	24,26	3520-11.00GC	220,73
M 12 x 1.00	13.29	95x30x9	3524-12.00I	22,24	3524-12.00SP	27,67	3524-12.00SF	27,67	3524-12.00GC	211,86
M 12 x 1.25	13.62	95x30x9	3523-12.00I	22,24	3523-12.00SP	24,15	3523-12.00SF	24,15	3523-12.00GC	167,46
M 12 x 1.50	14.13	95x30x9	3521-12.00I	22,24	3521-12.00SP	24,15	3521-12.00SF	24,15	3521-12.00GC	167,46
M 12 x 1.75	14.27	95x30x9	3520-12.00I	18,21	3520-12.00SP	21,18	3520-12.00SF	21,18	3520-12.00GC	127,41
M 13 x 1.25	14.62	95x30x9	3521-13.00I	25,51	3521-13.00SP	34,47	3521-13.00SF	34,47	3521-13.00GC	251,35
M 13 x 1.75	15.27	102x32x10	3520-13.00I	25,51	3520-13.00SP	34,47	3520-13.00SF	34,47	3520-13.00GC	251,35
M 14 x 1.00	15.29	102x32x10	3524-14.00I	25,29	3524-14.00SP	42,41	3524-14.00SF	42,41	3524-14.00GC	317,86
M 14 x 1.25	15.62	102x32x10	3523-14.00I	25,29	3523-14.00SP	33,36	3523-14.00SF	33,36	3523-14.00GC	332,94
M 14 x 1.50	15.94	102x32x10	3521-14.00I	25,29	3521-14.00SP	33,36	3521-14.00SF	33,36	3521-14.00GC	251,35
M 14 x 2.00	16.59	102x32x10	3520-14.00I	25,29	3520-14.00SP	33,36	3520-14.00SF	33,36	3520-14.00GC	150,71



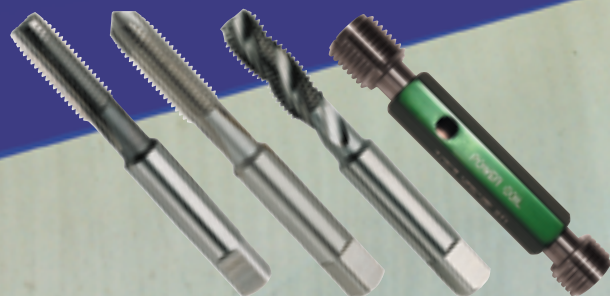
Las dimensiones generales de los machos de mano y máquina son las mismas. Disponibles machos con otras entradas (2-3 h y 6-8 h) u otros especiales.
Overall dimensions for hand and machine taps are the same. Taps produced with further chamfers (2-3h and 6-8) or other special sizes are available upon request.
Les dimensions générales des tarauds à main et tarauds machine son les mêmes. Tarauds avec entrées différentes (2-3 filets et 6-8 filets) et autres tarauds spéciaux disponibles.



	Dimensions		Mano/Hand/Main	€	F / B	€	35°	€	Calibre / Gauge	€
M/MF	Ø Ext.	Lt x Lc x Ø	Ref.		Ref.		Ref.		Ref.	
M 15 x 1.50	16.94	102x32x10	3521-15.00I	30,20	3521-15.00SP	47,56	3521-15.00SF	47,56	3521-15.00GC	251,35
M 15 x 2.00	17.59	112x37x11.2	3520-15.00I	30,20	3520-15.00SP	47,56	3520-15.00SF	47,56	3520-15.00GC	251,35
M 16 x 1.50	17.94	112x37x11.2	3521-16.00I	30,28	3521-16.00SP	42,10	3521-16.00SF	42,10	3521-16.00GC	251,35
M 16 x 2.00	18.59	112x37x11.2	3520-16.00I	30,28	3520-16.00SP	35,27	3520-16.00SF	35,27	3520-16.00GC	164,84
M 18 x 1.50	19.94	112x37x11.2	3523-18.00I	38,34	3523-18.00SP	53,11	3523-18.00SF	53,11	3523-18.00GC	290,02
M 18 x 2.00	20.59	112x37x11.2	3521-18.00I	38,34	3521-18.00SP	53,11	3521-18.00SF	53,11	3521-18.00GC	290,02
M 18 x 2.50	21.24	118x38x12.5	3520-18.00I	38,34	3520-18.00SP	53,11	3520-18.00SF	53,11	3520-18.00GC	172,17
M 20 x 1.50	21.94	118x38x12.5	3523-20.00I	42,17	3523-20.00SP	62,57	3523-20.00SF	62,57	3523-20.00GC	290,02
M 20 x 2.00	22.59	118x38x12.5	3521-20.00I	42,17	3521-20.00SP	62,57	3521-20.00SF	62,57	3521-20.00GC	290,02
M 20 x 2.50	23.24	118x38x12.5	3520-20.00I	42,17	3520-20.00SP	62,57	3520-20.00SF	62,57	3520-20.00GC	186,04
M 22 x 1.50	23.94	130x45x14	3523-22.00I	48,50	3523-22.00SP	88,50	3523-22.00SF	88,50	3523-22.00GC	311,50
M 22 x 2.00	24.59	130x45x14	3521-22.00I	48,50	3521-22.00SP	88,50	3521-22.00SF	88,50	3521-22.00GC	311,50
M 22 x 2.50	25.24	130x45x14	3520-22.00I	48,50	3520-22.00SP	88,50	3520-22.00SF	88,50	3520-22.00GC	311,50
M 24 x 1.50	25.94	130x45x14	3523-24.00I	61,33	3523-24.00SP	106,20	3523-24.00SF	106,20	3523-24.00GC	332,98
M 24 x 2.00	26.59	127x37x16	3521-24.00I	61,33	3521-24.00SP	106,20	3521-24.00SF	106,20	3521-24.00GC	332,98
M 24 x 3.00	27.89	135x45x16	3520-24.00I	61,33	3520-24.00SP	106,20	3520-24.00SF	106,20	3520-24.00GC	332,98
M 26 x 1.50	27.94	127x37x16	3523-26.00I	115,23	-	-	-	-	-	-
M 27 x 1.50	28.97	127x37x16	3523-27.00I	135,87	-	-	-	-	-	-
M 27 x 2.00	29.59	127x37x16	3521-27.00I	135,87	-	-	-	-	-	-
M 27 x 3.00	30.89	151x51x18	3520-27.00I	135,87	-	-	-	-	-	-
M 28 x 1.50	29.99	137x37x18	3523-28.00I	151,46	-	-	-	-	-	-
M 30 x 1.50	31.96	137x37x18	3523-30.00I	161,63	-	-	-	-	-	-
M 30 x 2.00	32.59	137x37x18	3521-30.00I	161,63	-	-	-	-	-	-
M 30 x 3.50	34.54	162x57x20	3520-30.00I	161,63	-	-	-	-	-	-
M 33 x 2.00	35.59	144x39x20	3521-33.00I	196,25	-	-	-	-	-	-
M 33 x 3.50	37.54	170x60x22.4	3520-33.00I	196,25	-	-	-	-	-	-
M 36 x 1.50	37.92	149x39x22.4	3524-36.00I	225,64	-	-	-	-	-	-
M 36 x 2.00	38.55	149x39x22.4	3523-36.00I	225,64	-	-	-	-	-	-
M 36 x 3.00	39.89	170x60x22.4	3521-36.00I	225,64	-	-	-	-	-	-
M 36 x 4.00	41.19	170x60x22.4	3520-36.00I	225,64	-	-	-	-	-	-



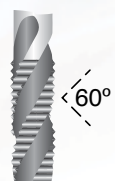
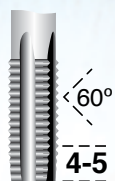
M
MF



	Dimensions		Mano/Hand/Main	€	F / B	€	35°	€	Calibre / Gauge	€
UNC	Ø Ext.	Lt x Lc x Ø	Ref.		Ref.		Ref.		Ref.	
UNC N°2 - 56	2.77	44x9.5x2.2	3532-2GI	16,09	3532-26SP	21,97	3532-26SF	21,97	3532-26GC	240,48
UNC N°3 - 48	3.02	44x9.5x2.2	3532-3GI	16,09	3532-36SP	23,25	3532-36SF	23,25	3532-36GC	282,69
UNC N°4 - 40	3.67	53x13x3.15	3532-4GI	16,09	3532-46SP	21,97	3532-46SF	21,97	3532-46GC	247,54
UNC N°5 - 40	4.00	53x13x3.15	3532-5GI	16,09	3532-56SP	21,97	3532-56SF	21,97	3532-56GC	162,49
UNC N°6 - 32	4.53	58x16x4	3532-6GI	16,09	3532-66SP	21,97	3532-66SF	21,97	3532-66GC	162,49
UNC N°8 - 32	5.19	62x17x4.5	3532-8GI	16,09	3532-86SP	21,97	3532-86SF	21,97	3532-86GC	148,61
UNC N°10 - 24	6.20	66x19x5	3532-10GI	16,09	3532-106SP	20,14	3532-106SF	20,14	3532-106GC	148,61
UNC N°12 - 24	6.86	66x19x5.6	3532-12GI	16,09	3532-126SP	20,14	3532-126SF	20,14	3532-126GC	186,54
UNC 1/4 - 20	8.00	72x22x6.3	3532-1/4I	10,54	3532-1/4SP	14,65	3532-1/4SF	14,65	3532-1/4GC	148,61
UNC 5/16 - 18	9.77	80x24x8	3532-5/16I	11,60	3532-5/16SP	17,39	3532-5/16SF	17,39	3532-5/16GC	148,61
UNC 3/8 - 16	11.58	85x25x6.3	3532-3/8I	12,08	3532-3/8SP	21,97	3532-3/8SF	21,97	3532-3/8GC	157,77
UNC 7/16 - 14	13.47	95x30x9	3532-7/16I	16,09	3532-7/16SP	24,99	3532-7/16SF	24,99	3532-7/16GC	200,44
UNC 1/2 - 13	15.23	102x32x10	3532-1/2I	18,21	3532-1/2SP	27,46	3532-1/2SF	27,46	3532-1/2GC	200,44
UNC 9/16 - 12	17.03	112x37x11.2	3532-9/16I	30,28	3532-9/16SP	45,77	3532-9/16SF	45,77	3532-9/16GC	272,11
UNC 5/8 - 11	18.87	112x37x11.2	3532-5/8I	37,38	3532-5/8SP	63,80	3532-5/8SF	63,80	3532-5/8GC	233,41
UNC 3/4 - 10	22.34	118x38x12.5	3532-3/4I	45,43	3532-3/4SP	64,71	3532-3/4SF	64,71	3532-3/4GC	290,02
UNC 7/8 - 9	25.89	130x45x14	3532-7/8I	53,01	3532-7/8SP	93,83	3532-7/8SF	93,83	3532-7/8GC	311,50
UNC 1 - 8	29.52	138x48x16	3532-1I	53,01	3532-1SP	109,85	3532-1SF	109,85	3532-1GC	332,98
UNC 1.1/8 - 7	33.28	151x51x18	3532-1.1/8I	160,53	-	-	-	-	-	-
UNC 1.1/4 - 7	36.46	162x57x20	3532-1.1/4I	192,61	-	-	-	-	-	-
UNC 1.3/8 - 6	40.42	170x60x22.4	3532-1.3/8I	240,78	-	-	-	-	-	-
UNC 1.1/2 - 6	43.59	187x67x25	3532-1.1/2I	312,07	-	-	-	-	-	-

UNC

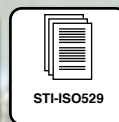







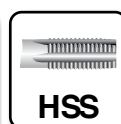
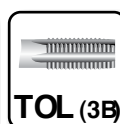
	Dimensions		Mano/Hand/Main	€	F / B	€	35°	€	Calibre / Gauge	€
UNF	Ø Ext.	Lt x Lc x ∅	Ref.		Ref.		Ref.		Ref.	
UNF N°3 - 56	3.09	44x9.5x2.2	3534-3GI	16,84	3534-3GSP	23,25	3534-3GSF	23,25	3534-3GGC	276,06
UNF N°4 - 48	3.53	50x13x2.80	3534-4GI	16,09	3534-4GSP	21,97	3534-4GSF	21,97	3534-4GGC	254,26
UNF N°6 - 40	4.33	53x13x3.55	3534-6GI	16,09	3534-6GSP	21,97	3534-6GSF	21,97	3534-6GGC	162,49
UNF N°8 - 36	5.08	62x17x4.50	3534-8GI	16,09	3534-8GSP	21,97	3534-8GSF	21,97	3534-8GGC	148,61
UNF N°10 - 32	5.85	66x19x5.00	3534-10GI	16,09	3534-10GSP	20,14	3534-10GSF	20,14	3534-10GGC	148,61
UNF N°12 - 28	6.75	66x19x5.60	3534-12GI	18,45	3534-12GSP	20,17	3534-12GSF	20,17	3534-12GGC	189,72
UNF 1/4 - 28	7.52	72x22x6.30	3534-1/4I	10,54	3534-1/4SP	14,65	3534-1/4SF	14,65	3534-1/4GC	148,61
UNF 5/16 - 24	9.31	80x24x8.00	3534-5/16I	11,60	3534-5/16SP	17,39	3534-5/16SF	17,39	3534-5/16GC	148,61
UNF 3/8 - 24	10.89	85x25x6.30	3534-3/8I	12,08	3534-3/8SP	21,97	3534-3/8SF	21,97	3534-3/8GC	160,13
UNF 7/16 - 20	12.76	89x29x7.10	3534-7/16I	16,09	3534-7/16SP	24,99	3534-7/16SF	24,99	3534-7/16GC	160,13
UNF 1/2 - 20	14.35	95x30x9.00	3534-1/2I	16,55	3534-1/2SP	27,46	3534-1/2SF	27,46	3534-1/2GC	160,13
UNF 9/16 - 18	16.12	102x32x10	3534-9/16I	30,28	3534-9/16SP	45,77	3534-9/16SF	45,77	3534-9/16GC	272,11
UNF 5/8 - 18	17.10	112x37x11.2	3534-5/8I	37,38	3534-5/8SP	63,80	3534-5/8SF	63,80	3534-5/8GC	261,82
UNF 3/4 - 16	21.11	112x37x11.2	3534-3/4I	45,43	3534-3/4SP	64,71	3534-3/4SF	64,71	3534-3/4GC	302,10
UNF 7/8 - 14	24.58	130x45x14	3534-7/8I	52,72	3534-7/8SP	93,83	3534-7/8SF	93,83	3534-7/8GC	324,48
UNF 1 - 12	28.15	127x37x16	3534-1I	52,72	3534-1SP	109,85	3534-1SF	109,85	3534-1GC	346,85
UNF 1 - 14	27.76	127x37x16	3535-1I	52,72	3535-1SP	109,85	3535-1SF	109,85	3535-1GC	346,85
UNF 1.1/8 - 12	31.32	137x37x18	3534-1.1/8I	160,53	-	-	-	-	-	-
UNF 1.1/4 - 12	34.50	144x39x20	3534-1.1/4I	192,61	-	-	-	-	-	-
UNF 1.3/8 - 12	37.67	149x39x22.4	3534-1.3/8I	240,78	-	-	-	-	-	-
UNF 1.1/2 - 12	40.85	149x39x22.4	3534-1.1/2I	312,07	-	-	-	-	-	-



UNF



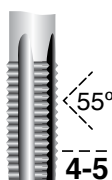


				
	Dimensions		Mano/Hand/Main	€
BSW	Ø Ext.	Lt x Lc x ∇	Ref.	
BSW 1/8 - 40	3.93	53x13x3.15	3528-1/8I	10,54
BSW 3/16 - 24	6.00	66x19x5	3528-3/16I	10,54
BSW 1/4 - 20	7.84	72x22x6.3	3528-1/4I	10,54
BSW 5/16 - 18	9.59	80x24x8	3528-5/16I	11,60
BSW 3/8 - 16	11.38	85x25x6.3	3528-3/8I	12,08
BSW 7/16 - 14	13.23	95x30x9	3528-7/16I	16,09
BSW 1/2 - 12	15.17	102x32x10	3528-1/2I	18,66
BSW 9/16 - 12	16.76	102x32x10	3528-9/16I	30,28
BSW 5/8 - 11	18.57	112x37x11.2	3528-5/8I	37,38
BSW 11/16 - 11	19.60	112x37x11.2	3528-11/16I	45,43
BSW 3/4 - 10	22.01	118x38x12.5	3528-3/4I	45,43
BSW 7/8 - 9	25.52	130x45x14	3528-7/8I	52,72
BSW 1 - 8	29.10	138x48x16	3528-1I	52,72






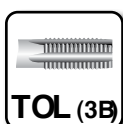
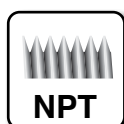
BSW
BSF



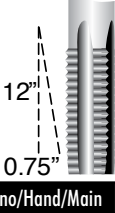


				
	Dimensions		Mano/Hand/Main	€
BSF	Ø Ext.	Lt x Lc x ∇	Ref.	
BSF 3/16 - 32	5.70	66x19x5	3530-3/16I	10,54
BSF 1/4 - 26	7.51	72x22x6.3	3530-1/4I	10,54
BSF 5/16 - 22	9.30	80x24x8	3530-5/16I	11,60
BSF 3/8 - 20	11.02	85x25x6.3	3530-3/8I	12,08
BSF 7/16 - 18	12.77	89x29x7.1	3530-7/16I	16,09
BSF 1/2 - 16	14.56	95x30x9	3530-1/2I	18,66
BSF 9/16 - 16	16.15	102x32x10	3530-9/16I	30,28
BSF 5/8 - 14	18.01	112x37x11.2	3530-5/8I	37,38
BSF 11/16 - 14	19.60	112x37x11.2	3530-11/16I	45,43
BSF 3/4 - 12	21.53	118x38x12.5	3530-3/4I	45,43
BSF 7/8 - 11	24.93	130x45x14	3530-7/8I	52,72
BSF 1 - 10	28.37	138x48x16	3530-1I	52,72



				
			55°	4-5
		Dimensions	Mano/Hand/Main	€
BSP	Ø Ext.	Lt x Lc x 	Ref.	
BSP 1/8 - 28	10.81	85x25x6.3	3546-1/8I	14,18
BSP 1/4 - 19	14.73	95x30x9	3546-1/4I	16,09
BSP 3/8 - 19	18.24	112x37x11.2	3546-3/8I	21,18
BSP 1/2 - 14	23.09	118x38x12.5	3546-1/2I	34,31
BSP 5/8 - 14	25.05	130x45x14	3546-5/8I	50,42
BSP 3/4 - 14	28.58	127x37x16	3546-3/4I	50,42
BSP 1 - 11	35.96	162x57x20	3546-1I	78,79



 				
	Dimensions	Mano/Hand/Main	€	
NPT	Ø Ext.	Lt x Lc x \varnothing	Ref.	
NPT 1/8 - 27	10.43	54x19x8.3	3552-1/8I	68,78
NPT 1/4 - 18	13.95	62x27x10.7	3552-1/4I	77,38
NPT 3/8 - 18	17.37	65x27x13.5	3552-3/8I	103,17
NPT 1/2 - 14	21.65	80x35x13.1	3552-1/2I	124,67
NPT 3/4 - 14	26.96	83x35x17.2	3552-3/4I	163,36
NPT 1 - 11.1/2	33.75	95x44x22.7	3552-1I	223,53





8-UN





TOL (3B)

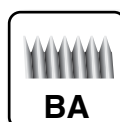


HSS

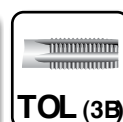


CÓD.
FAMILIA
...I

				
				
		Dimensions		Mano/Hand/Main €
8 - UN		Ø Ext.	Lt x Lc x \square	Ref.
UN 1.1/8 - 8		1.26	5.9x2.0x0.7	3570-1.1/8I
UN 1.1/4 - 8		1.38	6.3x2.2x0.7	3570-1.1/4I
UN 1.3/8 - 8		1.51	6.6x2.3x0.8	3570-1.3/8I
UN 1.1/2 - 8		1.63	6.6x2.3x0.8	3570-1.1/2I
UN 1.5/8 - 8		1.76	7.3x2.6x0.9	3570-1.5/8I
UN 1.3/4 - 8		1.88	7.3x2.6x0.9	3570-1.3/4I
UN 1.7/8 - 8		2.01	7.8x2.7x1.1	3570-1.7/8I
UN 2 - 8		2.13	7.8x2.7x1.1	3570-2I



BA



TOL (3B)




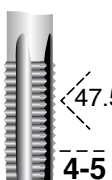
HSS



CÓD.
FAMILIA
...I

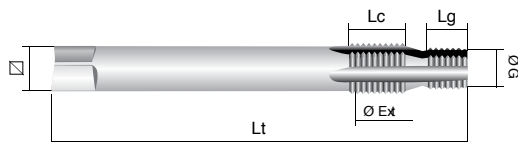
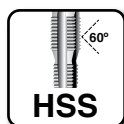
8-UN
BA







				
				
		Dimensions		Mano/Hand/Main €
BA		Ø Ext.	Lt x Lc x \square	Ref.
BA 0		7.12	66x19x5.6	3544-0I
BA 2		5.60	62x17x4.5	3544-2I
BA 4		4.34	53x13x3.5	3544-4I
BA 6		3.40	50x13x2.8	3544-6I



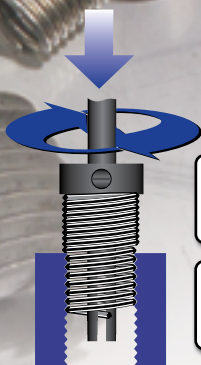
	Dimensions		Mano/Hand/Main	€
BSB	Ø Ext.	Lt x Lc x Ø	Ref.	
BSB 1/4 - 26	7.72	72x22x6.3	3560-1/4I	10,54
BSB 5/16 - 26	9.30	72x22x7.1	3560-5/16I	11,60
BSB 3/8 - 26	10.89	85x25x6.3	3560-3/8I	12,08
BSB 7/16 - 26	12.48	89x29x7.1	3560-7/16I	16,09
BSB 1/2 - 26	14.07	95x30x9	3560-1/2I	18,21



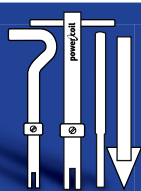
 						
	Dimensions					
M/MF	Ø Ext.	Lg	Ø G	Lt x Lc x 	Ref.	
M 6 x 1.00	7.29	7	6	70x28x6.3	3520-6.00PN	20,49
M 8 x 1.25	9.62	9	8	75x32x6.3	3520-8.00PN	20,49
M 10 x 1.00	11.29	8	10	74x30x6.3	3522-10.00PN	25,63
M 10 x 1.50	11.94	9	10	89x29x7.1	3520-10.00PN	25,63
M 12 x 1.25	13.62	9	12	75x32x7.1	3522-12.00PN	36,41
M 14 x 1.25	15.62	10	14	90x45x9.2	3522-14.00PN	42,37
M 18 x 1.50	19.94	10	18	116x47x12.5	3522-18.00PN	60,58

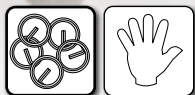
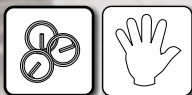


BUJÍA
SPARK PLUG
BOUGIE

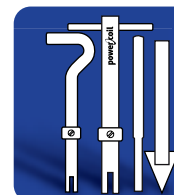


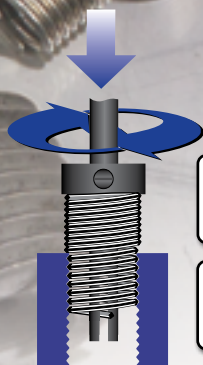
M/MF	Ref.	€	Ref.	€	Ref.	€	Ref.	€	Ref.	€
M 2 x 0.40	3500-HIT2	10,54	3520-2.00HIP	101,68	-	-	3520-2.00MIT	19,78	-	-
M 2.20 x 0.45	3500-HIT2	10,54	3520-2.20HIP	101,68	-	-	3520-2.20MIT	19,78	-	-
M 2.50 x 0.45	3500-HIT3	10,54	3520-2.50HIP	101,68	-	-	3520-2.50MIT	19,78	-	-
M 3 x 0.50	3500-HIT4	10,54	3520-3.00HIP	75,81	-	-	3520-3.00MIT	14,91	-	-
M 3.50 x 0.60	3500-HIT5	10,54	3520-3.50HIP	75,81	-	-	3520-3.50MIT	16,11	-	-
M 4 x 0.70	3500-HIT6	10,54	3520-4.00HIP	75,81	-	-	3520-4.00MIT	14,91	-	-
M 5 x 0.80	3500-HIT8	10,54	3520-5.00HIP	75,81	-	-	3520-5.00MIT	14,91	-	-
M 6 x 1.00	3500-HIT9	10,54	3520-6.00HIP	78,82	-	-	3520-6.00MIT	14,91	-	-
M 7 x 1.00	3500-HIT10	12,08	3520-7.00HIP	78,82	-	-	3520-7.00MIT	16,11	-	-
M 8 x 1.00	3500-HIT11	12,08	3521-8.00HIP	75,44	-	-	3521-8.00MIT	24,57	-	-
M 8 x 1.25	3500-HIT11	12,08	3520-8.00HIP	64,16	-	-	3520-8.00MIT	18,18	-	-
M 9 x 1.25	3500-HIT13	12,08	3520-9.00HIP	63,70	-	-	3520-9.00MIT	34,12	-	-
M 10 x 1.00	3500-HIT13	12,08	3523-10.00HIP	86,15	-	-	3523-10.00MIT	34,12	-	-
M 10 x 1.25	3500-HIT13	12,08	3521-10.00HIP	94,12	-	-	3521-10.00MIT	34,12	-	-
M 10 x 1.50	3500-HIT13	12,08	3520-10.00HIP	85,48	-	-	3520-10.00MIT	20,08	-	-
M 11 x 1.00	3500-HIT14	15,14	-	-	-	-	-	-	-	-
M 11 x 1.25	3500-HIT14	15,14	-	-	-	-	-	-	-	-
M 11 x 1.50	3500-HIT14	15,14	3520-11.00HIP	95,64	-	-	3520-11.00MIT	23,72	-	-
M 12 x 1.00	3500-HIT15	15,14	-	-	-	-	-	-	-	-
M 12 x 1.25	3500-HIT15	15,14	3523-12.00HIP	89,14	-	-	3523-12.00MIT	36,18	-	-
M 12 x 1.50	3500-HIT15	15,14	3521-12.00HIP	83,66	-	-	3521-12.00MIT	36,18	-	-
M 12 x 1.75	3500-HIT15	15,14	3520-12.00HIP	82,29	-	-	3520-12.00MIT	22,20	-	-
M 13 x 1.25	3500-HIT16	18,21	-	-	-	-	-	-	-	-
M 13 x 1.50	3500-HIT15	15,14	-	-	-	-	-	-	-	-
M 13 x 1.75	3500-HIT15	15,14	-	-	-	-	3520-13.00MIT	40,95	-	-
M 14 x 1.00	3500-HIT16	18,21	-	-	-	-	-	-	-	-
M 14 x 1.25	3500-HIT16	18,21	3523-14.00HIP	173,70	-	-	3523-14.00MIT	40,95	-	-
M 14 x 1.50	3500-HIT16	18,21	3521-14.00HIP	95,61	-	-	3521-14.00MIT	40,95	-	-
M 14 x 2.00	3500-HIT16	18,21	3520-14.00HIP	73,20	-	-	3520-14.00MIT	26,85	-	-



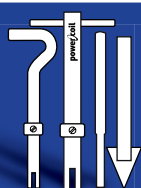


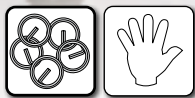
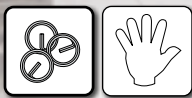
M/MF	Ref.	€	Ref.	€	Ref.	€	Ref.	€	Ref.	€
M 15 x 1.50	3500-HIT16	18,21	-	-	-	-	-	-	-	-
M 15 x 2.00	3500-HIT16	18,21	-	-	-	-	-	-	-	-
M 16 x 1.50	3500-HIT18	20,12	3521-16.00HIP	89,14	-	-	3521-16.00MIT	40,95	-	-
M 16 x 2.00	3500-HIT18	20,12	-	-	-	-	3520-16.00MIT	30,21	-	-
M 18 x 1.50	3500-HIT20	20,12	-	-	-	-	-	-	3523-18.00HIP	167,38
M 18 x 2.00	3500-HIT20	20,12	-	-	-	-	-	-	3521-18.00HIP	167,38
M 18 x 2.50	3500-HIT20	20,12	-	-	-	-	-	-	3520-18.00HIP	80,56
M 20 x 1.50	3500-HIT21	20,12	-	-	-	-	-	-	3523-20.00HIP	208,57
M 20 x 2.00	3500-HIT21	20,12	-	-	-	-	-	-	3521-20.00HIP	208,57
M 20 x 2.50	3500-HIT21	20,12	-	-	-	-	-	-	3520-20.00HIP	94,41
M 22 x 1.50	3500-HIT22	25,29	-	-	-	-	-	-	3523-22.00HIP	255,11
M 22 x 2.00	3500-HIT22	25,29	-	-	-	-	-	-	3521-22.00HIP	255,11
M 22 x 2.50	3500-HIT22	25,29	-	-	-	-	-	-	3520-22.00HIP	83,34
M 24 x 1.50	3500-HIT23	25,29	-	-	-	-	-	-	3523-24.00HIP	297,63
M 24 x 2.00	3500-HIT23	25,29	-	-	-	-	-	-	3521-24.00HIP	297,63
M 24 x 3.00	3500-HIT23	25,29	-	-	-	-	-	-	3520-24.00HIP	105,23
M 26 x 1.50	3500-HIT24	45,42	-	-	3523-26.00HIM	25,34	-	-	-	-
M 27 x 1.50	3500-HIT24	45,42	-	-	3523-27.00HIM	25,34	-	-	-	-
M 27 x 2.00	3500-HIT24	45,42	-	-	3521-27.00HIM	25,34	-	-	-	-
M 27 x 3.00	3500-HIT24	45,42	-	-	3520-27.00HIM	25,34	-	-	-	-
M 28 x 1.50	-	-	-	-	3523-28.00HIM	25,34	-	-	-	-
M 30 x 1.50	3500-HIT26	71,52	-	-	3523-30.00HIM	30,41	-	-	-	-
M 30 x 2.00	3500-HIT26	71,52	-	-	3521-30.00HIM	30,41	-	-	-	-
M 30 x 3.50	3500-HIT25	45,42	-	-	3520-30.00HIM	30,41	-	-	-	-
M 33 x 2.00	-	-	-	-	3521-33.00HIM	35,48	-	-	-	-
M 33 x 3.50	-	-	-	-	3520-33.00HIM	35,48	-	-	-	-
M 36 x 1.50	3500-HIT28	71,63	-	-	3524-36.00HIM	35,48	-	-	-	-
M 36 x 2.00	3500-HIT28	71,63	-	-	3523-36.00HIM	35,48	-	-	-	-
M 36 x 3.00	3500-HIT27	71,63	-	-	3521-36.00HIM	35,48	-	-	-	-
M 36 x 4.00	3500-HIT27	71,63	-	-	3520-36.00HIM	35,48	-	-	-	-



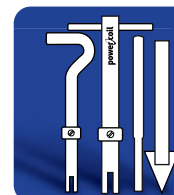


UNC	Ref.	€	Ref.	€	Ref.	€	Ref.	€	Ref.	€
UNC N°2 - 56	3500-HIT2	10,54	3532-2GHIP	106,02	-	-	3532-2GMIT	30,17	-	-
UNC N°3 - 48	3500-HIT3	10,54	3532-3GHIP	106,02	-	-	3532-3GMIT	30,17	-	-
UNC N°4 - 40	3500-HIT4	10,54	3532-4GHIP	106,02	-	-	3532-4GMIT	30,17	-	-
UNC N°5 - 40	3500-HIT4	10,54	3532-5GHIP	106,02	-	-	3532-5GMIT	30,17	-	-
UNC N°6 - 32	3500-HIT5	10,54	3532-6GHIP	103,13	-	-	3532-6GMIT	24,57	-	-
UNC N°8 - 32	3500-HIT6	10,54	3532-8GHIP	103,13	-	-	3532-8GMIT	24,57	-	-
UNC N°10 - 24	3500-HIT7	10,54	3532-10GHIP	103,13	-	-	3532-10GMIT	24,57	-	-
UNC N°12 - 24	3500-HIT8	10,54	3532-12GHIP	103,13	-	-	3532-12GMIT	24,57	-	-
UNC 1/4 - 20	3500-HIT9	10,54	3532-1/4HIP	70,10	-	-	3532-1/4MIT	24,57	-	-
UNC 5/16 - 18	3500-HIT10	12,08	3532-5/16HIP	70,15	-	-	3532-5/16MIT	24,57	-	-
UNC 3/8 - 16	3500-HIT13	12,08	3532-3/8HIP	81,45	-	-	3532-3/8MIT	34,12	-	-
UNC 7/16 - 14	3500-HIT14	15,14	3532-7/16HIP	81,45	-	-	3532-7/16MIT	34,12	-	-
UNC 1/2 - 13	3500-HIT15	15,14	3532-1/2HIP	94,17	-	-	3532-1/2HIP	94,17	-	-
UNC 9/16 - 12	3500-HIT16	18,21	-	-	-	-	-	-	3532-9/16HIP	85,12
UNC 5/8 - 11	3500-HIT18	20,12	-	-	-	-	-	-	3532-5/8HIP	89,44
UNC 3/4 - 10	3500-HIT20	20,12	-	-	-	-	-	-	3532-3/4HIP	100,59
UNC 7/8 - 9	3500-HIT22	25,29	-	-	-	-	-	-	3532-7/8HIP	108,33
UNC 1 - 8	3500-HIT23	25,29	-	-	-	-	-	-	3532-1HIP	123,81
UNC 1.1/8 - 7	3500-HIT24	45,42	-	-	3532-1.1/8HIM	30,41	-	-	3532-1.1/8HIP	141,36
UNC 1.1/4 - 7	3500-HIT25	45,42	-	-	3532-1.1/4HIM	30,41	-	-	3532-1.1/4HIP	148,09
UNC 1.3/8 - 6	3500-HIT26	71,52	-	-	3532-1.3/8HIM	35,48	-	-	3532-1.3/8HIP	150,71
UNC 1.1/2 - 6	3500-HIT27	71,63	-	-	3532-1.1/2HIM	35,48	-	-	3532-1.1/2HIP	152,81





UNF	Ref.	€	Ref.	€	Ref.	€	Ref.	€	Ref.	€
UNF N°3 - 56	3500-HIT3	10,54	3534-3GHIP	94,38	-	-	-	-	-	-
UNF N°4 - 48	3500-HIT4	10,54	3534-4GHIP	96,30	-	-	3534-4GMIT	30,17	-	-
UNF N°6 - 40	3500-HIT5	10,54	3534-6GHIP	84,38	-	-	3534-6GMIT	24,57	-	-
UNF N°8 - 36	3500-HIT6	10,54	3534-8GHIP	84,38	-	-	3534-8GMIT	24,57	-	-
UNF N°10 - 32	3500-HIT8	10,54	3534-10GHIP	84,38	-	-	3534-10GMIT	24,57	-	-
UNF N°12 - 28	3500-HIT8	10,54	3534-12GHIP	84,38	-	-	3534-12GMIT	24,57	-	-
UNF 1/4 - 28	3500-HIT9	10,54	3534-1/4HIP	57,36	-	-	3534-1/4MIT	24,57	-	-
UNF 5/16 - 24	3500-HIT11	12,08	3534-5/16HIP	57,40	-	-	3534-5/16MIT	24,57	-	-
UNF 3/8 - 24	3500-HIT13	12,08	3534-3/8HIP	66,64	-	-	3534-3/8MIT	24,57	-	-
UNF 7/16 - 20	3500-HIT14	15,14	3534-7/16HIP	66,64	-	-	3534-7/16MIT	34,12	-	-
UNF 1/2 - 20	3500-HIT15	15,14	3534-1/2HIP	77,05	-	-	3534-1/2HIP	77,05	-	-
UNF 9/16 - 18	3500-HIT16	18,21	-	-	-	-	-	-	3534-9/16HIP	69,64
UNF 5/8 - 18	3500-HIT18	20,12	-	-	-	-	-	-	3534-5/8HIP	73,17
UNF 3/4 - 16	3500-HIT21	20,12	-	-	-	-	-	-	3534-3/4HIP	82,31
UNF 7/8 - 14	3500-HIT22	25,29	-	-	-	-	-	-	3534-7/8HIP	88,64
UNF 1 - 12	3500-HIT23	25,29	-	-	-	-	-	-	3534-1HIP	101,29
UNF 1 - 14	3500-HIT23	25,29	-	-	-	-	-	-	3535-1HIP	101,29
UNF 1.1/8 - 12	3500-HIT25	45,42	-	-	3534-1.1/8HIM	30,41	-	-	3534-1.1/8HIP	379,86
UNF 1.1/4 - 12	3500-HIT26	71,52	-	-	3534-1.1/4HIM	30,41	-	-	3534-1.1/4HIP	443,18
UNF 1.3/8 - 12	3500-HIT27	71,63	-	-	3534-1.3/8HIM	35,48	-	-	3534-1.3/8HIP	506,49
UNF 1.1/2 - 12	3500-HIT28	71,63	-	-	3534-1.1/2HIM	35,48	-	-	3534-1.1/2HIP	569,80

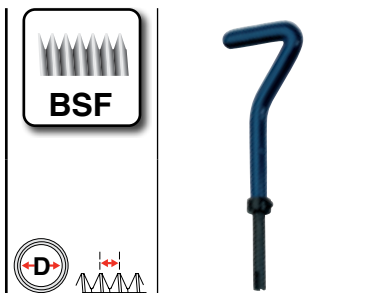




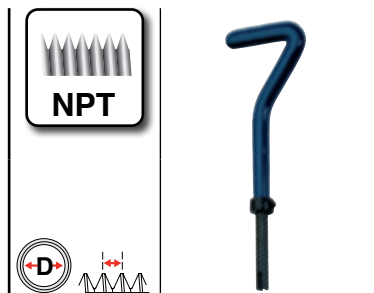
		€
BSW	Ref.	
BSW 1/8 - 40	3500-HIT4	10,54
BSW 3/16 - 24	3500-HIT7	10,54
BSW 1/4 - 20	3500-HIT9	10,54
BSW 5/16 - 18	3500-HIT10	12,08
BSW 3/8 - 16	3500-HIT11	12,08
BSW 7/16 - 14	3500-HIT14	15,14
BSW 1/2 - 12	3500-HIT15	15,14
BSW 9/16 - 12	3500-HIT16	18,21
BSW 5/8 - 11	3500-HIT18	20,12
BSW 3/4 - 10	3500-HIT20	20,12
BSW 7/8 - 9	3500-HIT22	25,29
BSW 1 - 8	3500-HIT23	25,29



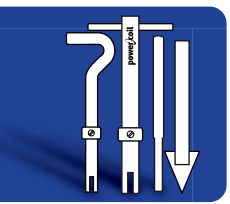
		€		€
BSP	Ref.		Ref.	
BSP 1/8 - 28	-	-	3546-1/8HIM	15,20
BSP 1/4 - 19	-	-	3546-1/4HIM	15,20
BSP 3/8 - 19	-	-	3546-3/8HIM	17,74
BSP 1/2 - 14	-	-	3546-1/2HIM	20,28
BSP 5/8 - 14	-	-	3546-5/8HIM	25,34
BSP 3/4 - 14	3500-HIT24	45,42	3546-3/4HIM	25,34
BSP 7/8 - 14	-	-	3546-7/8HIM	35,48
BSP 1 - 11	3500-HIT27	71,63	3546-1HIM	35,48

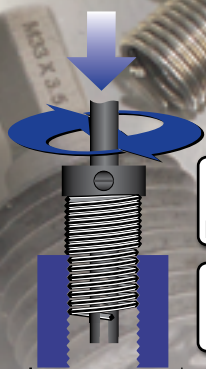


		€
BSF	Ref.	
BSF 3/16 - 32	3500-HIT8	10,54
BSF 1/4 - 26	3500-HIT9	10,54
BSF 5/16 - 22	3500-HIT11	12,08
BSF 3/8 - 20	3500-HIT13	12,08
BSF 7/16 - 18	3500-HIT14	15,14
BSF 1/2 - 16	3500-HIT15	15,14
BSF 9/16 - 16	3500-HIT16	18,21
BSF 5/8 - 14	3500-HIT18	20,12
BSF 3/4 - 12	3500-HIT20	20,12
BSF 7/8 - 11	3500-HIT22	25,29
BSF 1 - 10	3500-HIT23	25,29



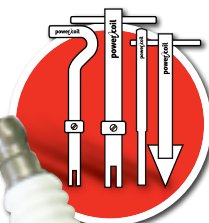
		€
NPT	Ref.	
NPT 1/8 - 27	3500-HIT13	12,08
NPT 1/4 - 18	3500-HIT16	18,21
NPT 3/8 - 18	3500-HIT18	20,12
NPT 1/2 - 14	3500-HIT22	25,29
NPT 3/4 - 14	3500-HIT24	45,42
NPT 1 - 11.1/2	3500-HIT27	71,63



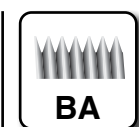


8 - UN	Ref.	€	Ref.	€
UN 1.1/8 - 8	3500-HIT24	45,42	3570-1.1/8HIM	59,18
UN 1.1/4 - 8	3500-HIT25	45,42	3570-1.1/4HIM	59,18
UN 1.3/8 - 8	3500-HIT26	71,52	3570-1.3/8HIM	68,66
UN 1.1/2 - 8	3500-HIT27	71,63	3570-1.1/2HIM	68,66
UN 1.5/8 - 8	-	-	3570-1.5/8HIM	71,02
UN 1.3/4 - 8	3500-HIT28	71,63	3570-1.3/4HIM	75,76
UN 1.7/8 - 8	3500-HIT30	89,07	3570-1.7/8HIM	87,59
UN 2 - 8	3500-HIT30	89,07	3570-2HIM	87,59

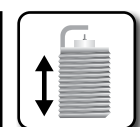
BSB	Ref.	€
BSB 1/4 - 26	3500-HIT9	10,54
BSB 5/16 - 26	3500-HIT11	12,08
BSB 3/8 - 26	3500-HIT13	12,08
BSB 7/16 - 26	3500-HIT14	15,14
BSB 1/2 - 26	3500-HIT15	15,14



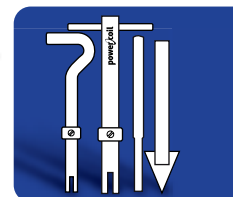
**BUJÍA
SPARK PLUG
BOUGIE**

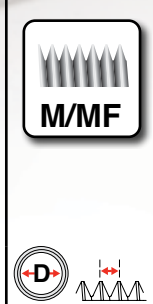
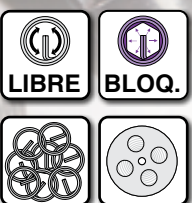


BA	Ref.	€
BA 0	3500-HIT9	10,54
BA 2	3500-HIT7	10,54
BA 4	3500-HIT5	10,54
BA 6	3500-HIT3	10,54



M/MF	Ref.	€
10x1.00	3500-HIT13	12,08
12x1.25	3500-HIT15	15,14
14x1.25	3500-HIT17	18,21
18x1.50	3500-HIT20	20,12

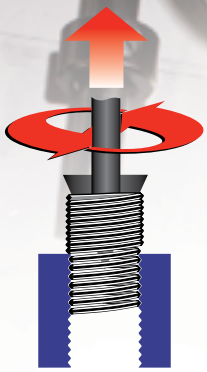




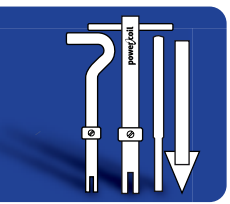
M/MF	Ref.	€
M 2 x 0.40	3500-TB2	4,52
M 2.20 x 0.45	3500-TB2	4,52
M 2.50 x 0.45	3500-TB3	4,52
M 3 x 0.50	3500-TB4	4,52
M 3.50 x 0.60	3500-TB5	4,52
M 4 x 0.70	3500-TB6	4,52
M 5 x 0.80	3500-TB8	4,52
M 6 x 1.00	3500-TB9	4,52
M 7 x 1.00	3500-TB11	5,00
M 8 x 1.00	3500-TB12	5,00
M 8 x 1.25	3500-TB12	5,00
M 9 x 1.25	3500-TB12	5,00
M 10 x 1.00	3500-TB13	5,00
M 10 x 1.25	3500-TB13	5,00
M 10 x 1.50	3500-TB13	5,00
M 11 x 1.00	3500-TB14	6,06
M 11 x 1.25	3500-TB14	6,06
M 11 x 1.50	3500-TB14	6,06
M 12 x 1.00	3500-TB15	6,06
M 12 x 1.25	3500-TB15	6,06
M 12 x 1.50	3500-TB15	6,06
M 12 x 1.75	3500-TB15	6,06
M 13 x 1.25	3500-HIT16	18,21
M 13 x 1.50	3500-TB15	6,06
M 13 x 1.75	3500-TB15	6,06
M 14 x 1.00	3500-HIT16	18,21
M 14 x 1.25	3500-HIT16	18,21
M 14 x 1.50	3500-HIT16	18,21
M 14 x 2.00	3500-HIT16	18,21

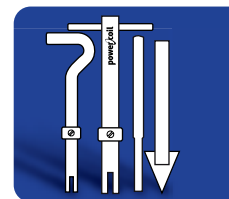
Ref.	€
3500-STB1	121,73
3500-STB1	121,73
3500-STB2	121,73
3500-STB4	121,73
3500-STB4	121,73
3500-STB5	121,73
3500-STB6	121,73
3500-STB8	121,73
-	-
3500-STB9	174,01
3500-STB9	174,01
-	-
3500-STB10	174,01
3500-STB10	174,01
3500-STB10	174,01
-	-
-	-
3500-STB12	208,39
3500-STB12	208,39
3500-STB12	208,39
-	-
-	-
-	-
-	-
-	-
-	-
-	-

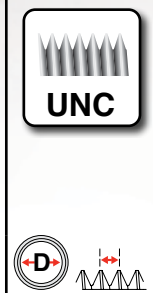
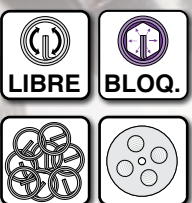
Ref.	€
3500-PNTB1	871,10
3500-PNTB1	871,10
3500-PNTB2	871,10
3500-PNTB4	871,10
3500-PNTB4	871,10
3500-PNTB5	871,10
3500-PNTB6	871,10
3500-PNTB8	871,10
-	-
3500-PNTB9	871,10
3500-PNTB9	871,10
-	-
3500-PNTB10	871,10
3500-PNTB10	871,10
3500-PNTB10	871,10
-	-
-	-
3500-PNTB12	871,10
3500-PNTB12	871,10
3500-PNTB12	871,10
-	-
-	-
-	-
-	-
-	-
-	-
-	-



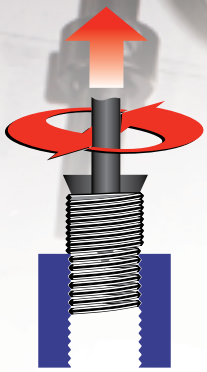
Ref.	€
3500-RT1	20,68
3500-RT1	20,68
3500-RT1	20,68
3500-RT2	22,33
3500-RT2	22,33
3500-RT2	22,33
3500-RT2	22,33
3500-RT2	22,33
3500-RT2	22,33
3500-RT2	22,33
3500-RT2	22,33
3500-RT2	22,33
3500-RT2	22,33
3500-RT2	22,33
3500-RT2	22,33
3500-RT2	22,33
3500-RT3	27,33
3500-RT3	27,33
3500-RT3	27,33
3500-RT3	27,33
3500-RT3	27,33
3500-RT3	27,33
3500-RT3	27,33
3500-RT3	27,33
3500-RT3	27,33
3500-RT3	27,33



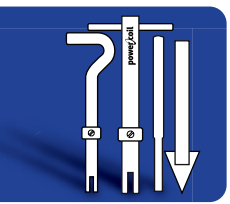




UNC	Ref.	€	Ref.	€	Ref.	€
UNC N°2 - 56	3500-TB2	4,52	3500-STB1	121,73	3500-PNTB1	871,10
UNC N°3 - 48	3500-TB3	4,52	-	-	-	-
UNC N°4 - 40	3500-TB4	4,52	3500-STB3	121,73	3500-PNTB3	871,10
UNC N°5 - 40	3500-TB4	4,52	3500-STB3	121,73	3500-PNTB3	871,10
UNC N°6 - 32	3500-TB5	4,52	3500-STB4	121,73	3500-PNTB4	871,10
UNC N°8 - 32	3500-TB6	4,52	3500-STB5	121,73	3500-PNTB5	871,10
UNC N°10 - 24	3500-TB8	4,52	3500-STB6	121,73	3500-PNTB6	871,10
UNC N°12 - 24	3500-TB8	4,52	3500-STB7	121,73	3500-PNTB7	871,10
UNC 1/4 - 20	3500-TB9	4,52	3500-STB8	121,73	3500-PNTB8	871,10
UNC 5/16 - 18	3500-TB12	5,00	3500-STB9	174,01	3500-PNTB9	871,10
UNC 3/8 - 16	3500-TB12	5,00	3500-STB10	174,01	3500-PNTB10	871,10
UNC 7/16 - 14	3500-TB14	6,06	3500-STB11	208,39	-	-
UNC 1/2 - 13	3500-TB15	6,06	3500-STB12	208,39	3500-PNTB12	871,10
UNC 9/16 - 12	3500-HIT16	18,21	-	-	-	-
UNC 5/8 - 11	3500-HIT18	20,12	-	-	-	-
UNC 3/4 - 10	3500-HIT20	20,12	-	-	-	-
UNC 7/8 - 9	3500-HIT22	25,29	-	-	-	-
UNC 1 - 8	3500-HIT23	25,29	-	-	-	-
UNC 1.1/8 - 7	-	-	-	-	-	-
UNC 1.1/4 - 7	-	-	-	-	-	-
UNC 1.3/8 - 6	-	-	-	-	-	-
UNC 1.1/2 - 6	-	-	-	-	-	-



Ref.	€
3500-RT1	20,68
3500-RT1	20,68
3500-RT1	20,68
3500-RT1	20,68
3500-RT1	20,68
3500-RT1	20,68
3500-RT2	22,33
3500-RT2	22,33
3500-RT2	22,33
3500-RT2	22,33
3500-RT3	27,33
3500-RT3	27,33
3500-RT3	27,33
3500-RT3	27,33
3500-RT3	27,33
3500-RT3	27,33
3500-RT4	50,01
3500-RT4	50,01
3500-RT4	50,01
3500-RT4	50,01

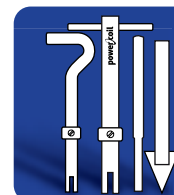


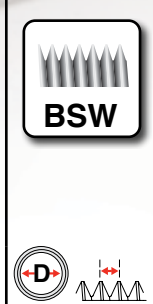
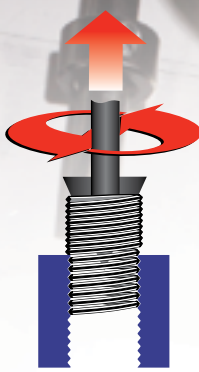
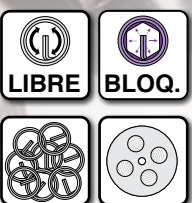


		€		€		€
UNF	Ref.		Ref.		Ref.	
UNF N°3 - 56	3500-TB3	4,52	-	-	-	-
UNF N°4 - 48	3500-TB4	4,52	3500-STB3	121,73	3500-PNTB3	871,10
UNF N°6 - 40	3500-TB5	4,52	3500-STB4	121,73	3500-PNTB4	871,10
UNF N°8 - 36	3500-TB6	4,52	3500-STB5	121,73	3500-PNTB5	871,10
UNF N°10 - 32	3500-TB8	4,52	3500-STB6	121,73	3500-PNTB6	871,10
UNF N°12 - 28	3500-TB8	4,52	-	-	-	-
UNF 1/4 - 28	3500-TB9	4,52	3500-STB8	121,73	3500-PNTB8	871,10
UNF 5/16 - 24	3500-TB12	5,00	3500-STB9	174,01	3500-PNTB9	871,10
UNF 3/8 - 24	3500-TB13	5,00	3500-STB10	174,01	3500-PNTB10	871,10
UNF 7/16 - 20	3500-TB14	6,06	3500-STB11	208,39	3500-PNTB11	871,10
UNF 1/2 - 20	3500-TB15	6,06	3500-STB12	208,39	3500-PNTB12	871,10
UNF 9/16 - 18	3500-HIT16	18,21	-	-	-	-
UNF 5/8 - 18	3500-HIT18	20,12	-	-	-	-
UNF 3/4 - 16	3500-HIT21	20,12	-	-	-	-
UNF 7/8 - 14	3500-HIT22	25,29	-	-	-	-
UNF 1 - 12	3500-HIT23	25,29	-	-	-	-
UNF 1 - 14	3500-HIT23	25,29	-	-	-	-
UNF 1.1/8 - 12	-	-	-	-	-	-
UNF 1.1/4 - 12	-	-	-	-	-	-
UNF 1.3/8 - 12	-	-	-	-	-	-
UNF 1.1/2 - 12	-	-	-	-	-	-



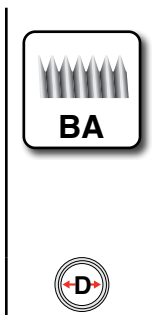
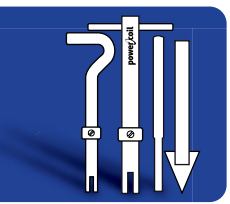
	€
Ref.	
3500-RT1	20,68
3500-RT1	20,68
3500-RT1	20,68
3500-RT1	20,68
3500-RT2	22,33
3500-RT2	22,33
3500-RT2	22,33
3500-RT2	22,33
3500-RT3	27,33
3500-RT3	27,33
3500-RT3	27,33
3500-RT3	27,33
3500-RT3	27,33
3500-RT3	27,33
3500-RT3	27,33
3500-RT3	27,33
3500-RT3	27,33
3500-RT4	50,01
3500-RT4	50,01
3500-RT4	50,01
3500-RT4	50,01





BSW	Ref.	€	Ref.	€	Ref.	€
BSW 1/8 - 40	3500-TB4	4,52	3500-STB3	121,73	3500-PNTB3	871,10
BSW 3/16 - 24	3500-TB8	4,52	3500-STB4	121,73	3500-PNTB4	871,10
BSW 1/4 - 20	3500-TB9	4,52	3500-STB5	121,73	3500-PNTB5	871,10
BSW 5/16 - 18	3500-TB11	5,00	3500-STB6	121,73	3500-PNTB6	871,10
BSW 3/8 - 16	3500-TB12	5,00	-	-	-	-
BSW 7/16 - 14	3500-TB14	6,06	3500-STB8	121,73	3500-PNTB8	871,10
BSW 1/2 - 12	3500-TB15	6,06	3500-STB9	174,01	3500-PNTB9	871,10
BSW 9/16 - 12	3500-HIT16	18,21	3500-STB10	174,01	3500-PNTB10	871,10
BSW 5/8 - 11	3500-HIT18	20,12	3500-STB11	208,39	3500-PNTB11	871,10
BSW 3/4 - 10	3500-HIT20	20,12	3500-STB12	208,39	3500-PNTB12	871,10
BSW 7/8 - 9	3500-HIT22	25,29	-	-	-	-
BSW 1 - 8	3500-HIT23	25,29	-	-	-	-

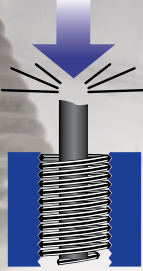
Ref.	€
3500-RT1	20,68
3500-RT2	22,33
3500-RT2	22,33
3500-RT2	22,33
3500-RT3	27,33
3500-RT3	27,33
3500-RT3	27,33
3500-RT3	27,33
3500-RT3	27,33
3500-RT3	27,33
3500-RT3	27,33





BA	Ref.	€
BA 0	3500-TB11	5,00
BA 2	3500-TB8	4,52
BA 4	3500-TB5	4,52
BA 6	3500-TB3	4,52





Ref.	€
3500-RT2	22,33
3500-RT2	22,33
3500-RT1	20,68
3500-RT1	20,68




LIBRE BLOQ.

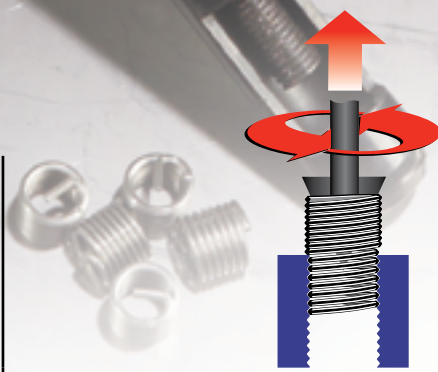









BSF	Ref.	€
BSF 3/16 - 32	3500-TB6	4,52
BSF 1/4 - 26	3500-TB9	4,52
BSF 5/16 - 22	3500-TB11	5,00
BSF 3/8 - 20	3500-TB12	5,00
BSF 7/16 - 18	3500-TB14	6,06
BSF 1/2 - 16	3500-TB15	6,06
BSF 9/16 - 16	3500-HIT16	18,21
BSF 5/8 - 14	3500-HIT18	20,12
BSF 3/4 - 12	3500-HIT20	20,12
BSF 7/8 - 11	3500-HIT22	25,29
BSF 1 - 10	3500-HIT23	25,29





LIBRE BLOQ.







Ref.	€
3500-RT2	22,33
3500-RT2	22,33
3500-RT2	22,33
3500-RT3	27,33
3500-RT3	27,33
3500-RT3	27,33
3500-RT3	27,33
3500-RT3	27,33
3500-RT3	27,33
3500-RT3	27,33
3500-RT3	27,33



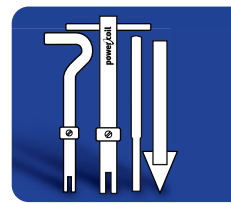


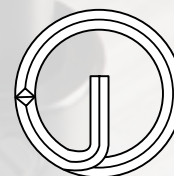
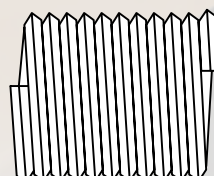
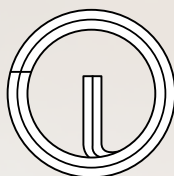


BSB	Ref.	€
BSB 1/4 - 26	3500-TB9	4,52
BSB 5/16 - 26	3500-TB12	5,00
BSB 3/8 - 26	3500-TB13	5,00
BSB 7/16 - 26	3500-TB14	6,06
BSB 1/2 - 26	3500-TB15	6,06



Ref.	€
3500-RT2	22,33
3500-RT2	22,33
3500-RT3	27,33
3500-RT3	27,33
3500-RT3	27,33





Materiales

Los insertos libres Power Coil están fabricados en acero inoxidable austenítico 304 (18/8) y certificados según las normas de conformidad aeroespacial DTD 734 A. Los materiales alternativos incluyen aceros inoxidables como AISI 316 o Inconel y una variedad de aplicaciones específicas para superficies recubiertas.

Materiales alternativos

Fósforo Bronce

Aleación no ferrosa de cobre estaño de acuerdo a BS2783 PB 102 E4 — es adecuada para trabajar a temperaturas entre -200°C a + 300°C.

Inconel X-750

La aleación base níquel resistente a temperaturas de temple (especificaciones equivalentes SAE AS 7246, DIN/NF3018 W.NR 2.4669, UNS N07750). El Inconel X-750 se recomienda para el rango de temperaturas de -200°C a + 550°C.

Nimonic 90

La aleación base níquel resistente a temperatura de temple de conformidad con BS2 HR 501 (especificaciones equivalentes W.NR 2.4632, UNS N07090).

El Nimonic 90 es recomendable para trabajar a temperaturas entre -100°C a + 650°C.

Material del Inserto	Tª Pico	Máxima Continua	Aplicaciones típicas	Recubrimientos
AISI 304	425°C	315°C	Aplicaciones generales Para todos los materiales	FL, AG, CD
	800°F	600°F		
AISI 316	425°C	315°C	Incrementa la resistencia a la corrosión, para aplicaciones en agua salada	FL, AG, CD
	800°F	600°F		
Fósforo Bronce	300°C	235°C	Material de cobre, no magnético, aplicaciones de baja permeabilidad	AG, CD
	572°F	455°F		
Inconel X-750	650°C	550°C	Aeroespacial, turbinas ambientes corrosivos, Uso en altas temperaturas	AG
	1200°F	1020°F		
Nimonic 90	650°C	550°C	Aeroespacial y aplicaciones en turbinas	AG
	1200°F	1020°F		

Alternativas de terminado y recubrimiento

Terminado Cadmio

Cadmio electrolítico depositado de conformidad con DTD905/Def. Stan 03-19 especificaciones equivalentes FED, QQ-P416, LN 9368) El terminado cadmio proporciona una excelente barrera entre metales diferentes reduciendo dramáticamente los efectos de la corrosión galvánica, su alta lubricidad y excelente resistencia a la corrosión previene el roce y la sobremedida entre los componentes de la rosca. El terminado cadmio esta recomendado para trabajar en el rango de temperatura de -200°C a + 235°C.

Las partes terminadas en Cadmio no deben

- Someterse a temperaturas por encima de 235°C (455°F)
 - Ponerse en contacto con combustible o aceite caliente
 - Ponerse en contacto con comida o agua potable.
 - Ser usados con componentes de titanio (ya sea directa o indirectamente).
- A temperaturas elevadas pueden ocurrir resquebrajamientos y fallos en los componentes.
- El cadmio es altamente tóxico - consecuentemente deben tomarse cuidadosas precauciones cuando se manipula, se maneja y se instala.

Terminado Zinc

El zinc es depositado electrolíticamente de conformidad con BS3382. El zinc electrolítico es el terminado mas aplicado en la industria. El zinc esta recomendado para trabajar en el rango de temperaturas de -200°C a + 250°C.

Terminado Plata

La plata es depositada electrolíticamente de conformidad con DTD939. El terminado plata es usado para prevenir que haya roces o sobremedida entre los componentes de la rosca cuando se usa a altas temperaturas y es el más comúnmente usado en los tornillos para motores de aviación. El terminado plata esta recomendado para trabajar a temperaturas en el rango de -200°C a + 650°C. Los insertos terminados en plata pueden ser utilizados con varios materiales incluyendo aleaciones de aluminio, aleaciones de magnesio, materiales resistentes al calor y a la corrosión, etc.

Los insertos terminados en plata no están recomendados para instalación en aleaciones de titanio que puedan exceder temperaturas de 300°C (570°F). Una alta corrosión como resultado de la combinación de plata y titanio puede ocurrir en el alojamiento.

Película Lubrificante seca

Una sólida película de resistencia al calor, recubierto con una película lubricante seca de conformidad con MIL-L-0046010 provee un recubrimiento con bajo coeficiente de fricción con excelente capacidad de soporte de carga. La película lubricante seca previene el roce y las sobremedidas entre los componentes roscados y es particularmente efectivo en la aplicación de los insertos de seguridad. La película seca lubricante es recomendada para la operación en el rango de temperatura de -100°C a + 250°C.

Terminado	Sufijo de No. De parte	Especificaciones a procesos aplicables
Recubrimiento plata	AG	DTD 939
Terminado de cadmio	CD	QQP-416 ou DEF STD 03-19
Película lubricante seca	FL	MIL-L-8937 ou MIL-L-46010
Tintado rojo	—	aplicado a insertos de seguridad para efectos de identificación*

* Otros colores de tintado pueden utilizarse para efectos de identificación específica.

Selección de la correcta longitud del inserto

Los insertos de rosca PowerCoil están disponibles en todos los tipos de rosca comunes. Hay cinco longitudes disponibles para cada medida. Es muy importante seleccionar la longitud correcta del inserto con efecto de equilibrar la dureza del material del tornillo con la dureza del material de alojamiento. Las cinco longitudes de insertos, 1D, 1.5D, 2D, 2.5D y 3D se muestran en el área sombreada en la tabla de abajo.

Los números están previamente calculados ya que los insertos no pueden medirse en estado libre (no instalado). Los números son múltiplos del tamaño de rosca nominal, o diámetro del inserto. Las longitudes actuales del inserto en posición instalada están listadas en las tablas de selección de insertos. Ahí se representa la longitud actual instalada más medio (1/2) paso. Usando la tabla siguiente la longitud de un inserto puede seleccionarse para conseguir un sistema suficientemente resistente para romper un tornillo antes de dañar el inserto o el material de alojamiento.

Longitud nominal recomendada de insertos basada en material de alojamiento vs. longitud de tornillo

Unificado (fuente BS7752 Part 1:1994)

Resistencia en materiales de alojamiento (KSI)	Material del tornillo fuerza de tensión (KSI) - (Lib / pulg ²)									
	54	75	96	108	125	132	160	180	220	
10	2.0	2.5	3.0	3.0	—	—	—	—	—	
15	1.5	1.5	2.0	2.5	2.5	3.0	—	—	—	
20	1.0	1.5	1.5	2.0	2.0	2.0	2.5	3.0	3.0	
25	1.0	1.0	1.5	1.5	1.5	2.0	2.0	2.5	2.5	
30	1.0	1.0	1.0	1.5	1.5	1.5	2.0	2.0	2.5	
40	1.0	1.0	1.0	1.0	1.0	1.5	1.5	1.5	2.0	
50	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.5	1.5	

EJEMPLO: Si el material de alojamiento es 10KSI y la tensión del tornillo es 54KSI, la longitud correcta del inserto es 2.0 de diámetro (2D).

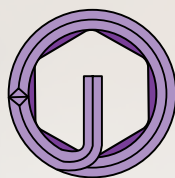
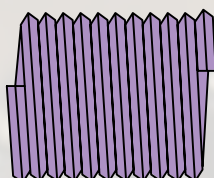
MÉTRICO

Resistencia en materiales de alojamiento (MPa)	Material del tornillo fuerza de tensión (MPa)							
	300	400	500	600	800	1000	1200	1400
70	1.5	2.0	2.5	2.5	—	—	—	—
100	1.0	1.5	1.5	2.0	2.5	3.0	—	—
150	1.0	1.0	1.5	1.5	2.0	2.0	2.5	3.0
200	1.0	1.0	1.0	1.0	1.5	1.5	2.0	2.5
250	1.0	1.0	1.0	1.0	1.0	1.5	1.5	2.0
300	1.0	1.0	1.0	1.0	1.0	1.5	1.5	1.5
350	1.0	1.0	1.0	1.0	1.0	1.0	1.5	1.5

EJEMPLO: Si el material de alojamiento es 150 Mpa y la tensión del tornillo es 500Mpa, la longitud correcta del inserto es de 1.5 de diámetro (1.5 D)

NOTA: Pa: 6894 ' 75 psi / Pa: 6 ' 89 Ksi





Proyección del tornillo

Los insertos Power Coil están diseñados para ser usados con tornillos Standard, normales disponibles que no requieran de especificaciones especiales.

El tornillo debe roscarse a lo largo de todo el inserto para asegurar la máxima firmeza de la unión. Para asegurar el roscado total, se recomienda cortar siempre el arrastre de la cola. Esto garantizará que las roscas de seguridad enrosquen en todos los hilos del tornillo. Si necesitan ver el diseño de cómo se hace, contactar con CELESA para asistencia.

NOTAS:

- Se especifican las resistencias mínimas de los tornillos. Cuando se escoge una longitud de inserto, se debe poner atención a la resistencia máxima permitida por el tornillo o sus especificaciones.
- La temperatura puede provocar variaciones significativas en los valores de resistencia, por lo tanto se debe permitir la compensación.
- La importancia de los valores de corte deben tenerse en cuenta dado que el material de alojamiento está sujeto a la presión de corte en la mayor parte del diámetro del agujero roscado.
- Cuando los valores de resistencia caen entre dos valores en las tablas, se debe optar por el material hacia abajo del valor de corte, o el valor inmediatamente más alto de resistencia a la tensión del tornillo.
- Para asegurar la máxima resistencia, la longitud del tornillo y de la rosca, así como la profundidad del agujero roscado, deben ser suficientes para asegurar el total roscado de todos los filetes a lo largo de todo el inserto.

Insertos para tornillos autoblocantes o de seguridad

Los insertos de seguridad Power Coil están diseñados para aplicaciones sujetas a los efectos de impacto y vibración cíclica. Los insertos de seguridad ejercen una fuerza de cierre en los hilos de los tornillos para prevenir su pérdida debido a vibración o impacto. Eliminan la necesidad de otras opciones, menos deseables y más costosas de mecanismos de seguridad. Son excelentes en el "ajuste del tornillo" previniendo que el tornillo se desplace de su lugar.

¿Cómo funcionan los insertos de seguridad?

Los insertos de seguridad Power Coil ofrecen una seguridad adicional de cierre al inserto Standard. Esto se consigue gracias a la acción de uno o varios cierres poligonales de las roscas del inserto posicionados a lo largo del mismo, que ejercen presión radial en los flancos de la rosca. En cada vuelta de agarre la rosca de seguridad consta de un número tangencial de roscas que empujan dentro del diámetro menor de la rosca standard.

En la medida en que la rosca pasa a través de estos hilos de seguridad, los dispositivos se expanden aplicando presión radial o freno efectivo en la rosca del tornillo. Al retirar el tornillo roscado, las roscas de seguridad relajan su expansión a su forma original permitiendo repetir el roscado del tornillo y manteniendo su nivel de presión radial de seguridad.

NOTA:

Con los insertos de seguridad Power Coil, se recomienda utilizar solamente tornillos cerrados recubiertos o tornillos lubricados. Cuando se utilicen tornillos no recubiertos o de acero inoxidable, debe utilizarse un compuesto anti-agarre, como por ejemplo, molibdeno disulfuro, que deberá utilizarse para reducir el roce y asegurar el ciclo máximo de vida. La vida de uso de un tornillo o perno usando los insertos de seguridad Power Coil también puede mejorarse al aplicarse una película lubricante seca o terminado en Cadmio.

Ubicación de los filetes autoblocantes o de seguridad

Para longitudes de 1D, 1.5D y 2D veces el diámetro: El centro de la espira poligonal autoblocante debe estar a la mitad del número de espiras del inserto standard. Para las longitudes de 2.5 D y 3D del diámetro: La espira poligonal autoblocante se encuentra a la misma distancia del arrastre que los insertos Standard de 2D de longitud.

Los insertos de seguridad están marcados con rojo para su fácil identificación exclusivamente. Este color es soluble en alcohol y puede quitarse, si se desea.

Recubrimiento en rojo

Los insertos de seguridad Power Coil están generalmente coloreados con una pintura orgánica roja para efectos de identificación. El color no afecta la instalación o el trabajo del inserto y no requiere ser eliminado (en la mayoría de los casos).

En casos en que se requiere extrema claridad (tales como instrumentos de ensamblajes de precisión en condiciones de limpieza) la pintura puede ser eliminada, remojando los insertos en una solución de alcohol desnaturalizado antes de su instalación.

Valores de apriete de los insertos de seguridad PowerCoil

MÉTRICA			MÉTRICA FINA		
Rosca mm x mm	Máximo (Nm)	Mínimo (Nm)	Rosca mm x mm	Máximo (Nm)	Mínimo (Nm)
M2.2x0.45	0.14	0.02	M8.0x1.00	6.00	0.80
M2.5x0.45	0.23	0.05	M10.0x1.00	10.50	1.40
M3.0x0.50	0.45	0.10	M10.0x1.25	10.50	1.40
M3.5x0.60	0.68	0.12	M12.0x1.25	15.50	2.10
M4.0x0.70	0.90	0.15	M12.0x1.50	15.50	2.10
M5.0x0.80	1.60	0.30	M14.0x1.50	23.50	3.00
M6.0x1.00	3.00	0.40	M16.0x1.50	31.50	4.20
M7.0x1.00	4.50	0.60	M18.0x1.50	42.00	5.50
M8.0x1.25	6.00	0.80	M20.0x1.50	54.00	7.00
M10.0x1.50	10.50	1.40	M22.0x1.50	67.50	9.00
M12.0x1.75	15.50	2.10	M18.0x2.00	42.00	5.50
M14.0x2.00	23.50	3.00	M20.0x2.00	54.00	7.00
M16.0x2.00	31.50	4.20	M22.0x2.00	67.50	9.00
M18.0x2.50	42.00	5.50	M24.0x2.00	80.00	10.50
M20.0x2.50	54.00	7.00	M27.0x2.00	94.00	12.00
M22.0x2.50	67.50	9.00	M30.0x2.00	108.00	14.00
M24.0x3.00	80.00	10.50	M33.0x2.00	122.00	15.50
M27.0x3.00	94.00	12.00	M36.0x2.00	136.00	17.50
M30.0x3.50	108.00	14.00	M39.0x2.00	150.00	19.50
M33.0x3.50	122.00	15.50	M36.0x3.00	136.00	17.50
M36.0x4.00	136.00	17.50	M39.0x3.00	150.00	19.50
M39.0x4.00	150.00	19.50			

Los valores de apriete siguen la norma MP3329, MP3330, MP3331

Valores de apriete de los insertos de seguridad PowerCoil

PASO GRUESO AMERICANO UNC			PASO FINO AMERICANO UNF		
Rosca inch x tpi	Máximo (lb in)	Mínimo (lb in)	Rosca inch x tpi	Máximo (lb in)	Mínimo (lb in)
2x56	1.25	0.19	3x56	0.13	0.44
3x48	2.00	0.44	4x48	0.19	0.63
4x40	3.00	0.63	6x40	6.00	1.00
5x40	4.69	0.81	8x36	9.00	1.50
6x32	6.00	1.00	10x32	13.00	2.00
8x32	9.00	1.50	1/4x28	30.00	3.50
10x24	13.00	2.00	5/16x24	60.00	6.50
12x24	24.00	3.00	3/8x24	80.00	9.50
1/4x20	30.00	4.50	7/16x20	100.00	14.00
5/16x18	60.00	7.50	1/2x20	150.00	18.00
3/8x18	80.00	12.00	9/16x18	200.00	24.00
7/16x14	100.00	16.50	5/8x18	300.00	32.00
1/2x13	150.00	24.00	3/4x16	400.00	50.00
9/16x12	200.00	30.00	7/8x14	600.00	70.00
5/8x11	300.00	40.00	1x12	800.00	90.00
3/4x10	400.00	60.00	11/8x12	900.00	117.00
7/8x9	600.00	82.00	11/4x12	1000.00	143.00
1x8	800.00	110.00	13/8x12	1150.00	165.00
11/8x7	900.00	137.00	11/2x12	1350.00	190.00
11/4x7	1000.00	165.00			
13/8x6	1150.00	185.00			
11/2x6	1350.00	210.00			

Los valores de apriete siguen la norma NASM8846

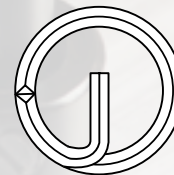
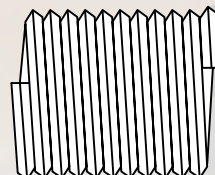
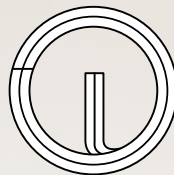
NOTA:

También es esencial que el tornillo se enrosque perfectamente en todos los hilos del inserto para mayor resistencia.

Los insertos de seguridad PowerCoil pueden ser diseñados de conformidad con las necesidades específicas de un cliente. En algunos casos y aplicaciones el apriete común puede ser disminuido o incrementado para una aplicación específica. En estos casos, consulte con nuestra oficina técnica para evaluar sus necesidades específicas.

NOTA:

La instalación de los insertos de seguridad PowerCoil requiere del uso de una herramienta pre-rosca especial. Consulte otras opciones de instalación con nuestro departamento comercial.



Materials

PowerCoil standard inserts are manufactured from fully certified, aircraft quality, 304 (18/8) austenitic stainless steel in accordance with DTD 734A. Alternative materials include 316 stainless steel and a variety of application specific surface coatings.

Alternative Materials

Phosphor Bronze

Non ferrous copper/tin alloy in accordance with BS2783 PB 102 EH — is suitable for operation in temperatures ranging from -200°C to +300°C.

Inconel X-750

Heat resisting precipitation hardenable nickel base alloy (equivalent specifications SAE AS 7246, DIN/NF 3018, W.NR 2.4669, UNS N07750). Inconel X-750 is suitable for operation in temperatures ranging from -200°C to +550° degrees celsius.

Nimonic 90

Heat resisting precipitation hardenable nickel base alloy in accordance with BS2 HR 501 (equivalent specifications W.NR 2.4632, UNS N07090).

Nimonic 90 is suitable for operation in temperatures ranging from -100°C to +650° degrees celsius.

Insert Material	Max. Peak	T ^a Continuous	Typical Applications	Coatings
Stainless 304	425°C 800°F	315°C 600°F	Most general applications in all materials	FL, AG, CD
Stainless 316	425°C 800°F	315°C 600°F	Increased corrosion resistance for salt water applications	FL, AG, CD
Phosphor Bronze	300°C 572°F	235°C 455°F	Copper parts, non-magnetic, low permeability applications	AG, CD
Inconel X-750	650°C 1200°F	550°C 1020°F	Aerospace, turbines, corrosive environments, high temp. use	AG
Nimonic 90	650°C 1200°F	550°C 1020°F	Aerospace and turbine applications	AG

Alternative Finishes & Coatings

Cadmium Plate

Electro-deposited Cadmium in accordance with DTD 904/Def Stan 03-19 (equivalent specifications FED. QQ-P-416, LN 9368). Cadmium plating provides an excellent barrier between dissimilar metals dramatically reducing the effects of galvanic corrosion, its high lubricity and excellent corrosion resistance prevents seizure and galling between threaded components. Cadmium plate is suitable for operation in temperatures ranging from -200°C to +235°C.

Cadmium plated parts must not be

- subjected to temperatures exceeding 235°C (455°F)
- come into contact with fuel or hot oil
- come into contact with food or drinking water
- be used with titanium components (either directly or indirectly). At elevated temperatures embrittlement and subsequent component failure may occur.
- Cadmium is highly toxic — consequently extreme care must be taken when shipping, handling and installing.

Zinc Plate

Electrolytically deposited zinc in accordance with BS 3382. Electro-deposited zinc is the most widely applied electroplated finish in industry. Zinc is suitable for operation in temperatures ranging from -200°C to +250°C.

Silver Plate

Electrolytically deposited silver in accordance with DTD 939. Silver plating is used to prevent seizure and galling between thread components in high temperature applications and is most commonly applied to aero-engine fasteners. Silver plate is suitable for operation in temperatures ranging from -200°C to +650°C. Silver plated wire inserts may be installed in various materials including aluminium alloys, magnesium alloys, corrosion and heat resistant materials etc.

Silver plated inserts are not recommended for installation in titanium alloy which may exceed a service temperature of 300°C (570°F). Stress corrosion as a result of the combination of silver and titanium may occur in the housing material.

Dry Film Lubricant

Solid film heat cured molybdenum disulphide dry film lubricant coating in accordance with MIL-L-0046010 provides a low frictional coefficient coating with excellent load bearing capabilities. Dry film lubricant prevents seizing and galling between threaded components and is particularly effective in screw locking insert applications. Dry film lubricant is suitable for operation in temperatures ranging from -100°C to +250°C.

Plating / Finish	Part No. Suffix	Applicable Process Specification
Silver Plating	AG	DTD 939
Cadmium Plating	CD	QQP-416 or DEF STD 03-19
Dry Film Lubricant	FL	MIL-L-8937 or MIL-L-46010
Red Dye	—	Applied to locking inserts for identification purposes*

* other color dyes may also be utilised for specific identification purposes

Selection of Correct Insert Length

PowerCoil wire thread inserts are available in all popular thread types. Five insert lengths are available for each thread size. It is important to select the correct insert length in order to balance the bolt tensile strength against the shear strength of the parent material. The five insert lengths (recommended thread engagement of the PowerCoil wire thread insert), 1D, 1.5D, 2D, 2.5D and 3D are shown in the shaded area of the table below. These are calculated numbers since the inserts cannot be measured in the free (un-installed) state. The numbers are multiples of the nominal thread size, or diameter, of the insert. The actual insert lengths in the installed position are listed in the insert selection tables. There they represent the actual installed length plus 1/2 pitch. Using the table below, an insert length can be selected which will produce a thread system strong enough to fracture a bolt before it will strip or damage either the parent material or the insert.

Recommended Nominal Insert Lengths Based on Parent Material Versus Bolt Material Strengths

Unified (source BS7752 Part 1:1994)

Shear Strength of Parent Material (KSI)	Bolt Material Minimum Ultimate Tensile Strength (KSI)									
	54	75	96	108	125	132	160	180	220	
10	2.0	2.5	3.0	3.0	—	—	—	—	—	
15	1.5	1.5	2.0	2.5	2.5	3.0	—	—	—	
20	1.0	1.5	1.5	2.0	2.0	2.0	2.5	3.0	3.0	
25	1.0	1.0	1.5	1.5	1.5	2.0	2.0	2.5	2.5	
30	1.0	1.0	1.0	1.5	1.5	1.5	2.0	2.0	2.5	
40	1.0	1.0	1.0	1.0	1.0	1.5	1.5	1.5	2.0	
50	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.5	1.5	

EXAMPLE: If parent material shear strength is 10KSI and the bolt tensile strength is 54 KSI, the correct insert length is 2.0 diameters (2D).

METRIC

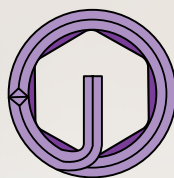
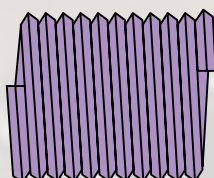
Shear Strength of Parent Material (MPa)	Bolt Material Minimum Ultimate Tensile Strength (MPa)							
	300	400	500	600	800	1000	1200	1400
70	1.5	2.0	2.5	2.5	—	—	—	—
100	1.0	1.5	1.5	2.0	2.5	3.0	—	—
150	1.0	1.0	1.5	1.5	2.0	2.0	2.5	3.0
200	1.0	1.0	1.0	1.0	1.5	1.5	2.0	2.5
250	1.0	1.0	1.0	1.0	1.0	1.5	1.5	2.0
300	1.0	1.0	1.0	1.0	1.0	1.5	1.5	1.5
350	1.0	1.0	1.0	1.0	1.0	1.0	1.5	1.5

EXAMPLE: If parent material shear strength is 150Mpa and the bolt tensile strength is 600Mpa, the correct insert length is 1.5 diameters (1.5D).

Bolt Projection

PowerCoil wire thread inserts are designed to be used with standard, readily available bolts and screws that require no special hardware.





PowerCoil Locking Insert Torque Values

The bolt must engage the entire insert length to achieve maximum assembly strength. To ensure against partial engagement, it is recommended that the tang always be removed. This will also guarantee that the locking coil(s) will be engaged by the full threads of the bolt. If design parameters prevent this, contact CELESA for assistance.

NOTES:

1. Bolt tensile strengths are specified minimums. When choosing an insert length, consideration should be given the maximum tensile strength allowed by the bolt drawing or procurement specification.
2. Service temperatures can cause significant variations in strength values, therefore compensation should be allowed.
3. The importance of shear values should be kept in mind because the parent material is subject to shear ing stress near the major diameter of the tapped threads.
4. When the strength values fall between two values in the tables, use next lower material shear value, or the next higher bolt tensile strength value.
5. To achieve maximum strength, bolt length and thread length as well as full tapped thread depth must be sufficient to assure full thread engagement over the entire length of the insert.

Screw Locking (Prevailing Torque) Inserts

Screw Locking PowerCoil wire thread inserts are designed for applications subject to the effects of cyclic vibration or impact. The screw locking insert exerts a prevailing torque on male threaded fasteners to prevent loosening due to vibration or impact. They eliminate the need for other, less desirable and costly locking mechanisms. They are excellent in "adjusting screw" applications by preventing the male fastener from creeping.

How Screw Locking Inserts Work

PowerCoil Screw Locking inserts offer the additional security of prevailing locking torque. This is achieved by the action of one or more polygonal grip coils positioned within the insert's length, which exert radial pressure on the male thread. Each grip coil consists of a number of tangential locking chords which protrude inside the minor diameter of the normal free running coils. As the male thread passes through these grip coils, the locking flats are displaced and exert radial pressure (prevailing torque) on the male thread.

On removal of the male thread, the locking coils relax to their original form permitting repeated assembly whilst retaining a measurable level of prevailing torque.

Please note:

It is recommended that only close fit plated or lubricated bolts or screws are used with screw locking PowerCoil wire thread inserts. When using heat treated unplated or stainless steel bolts, an anti-seize compound, e.g., molybdenum disulfide, must be used in order to minimize galling and assure maximum cycle life. Wear life of screw or bolt using PowerCoil screw locking wire thread inserts can also be improved by specifying dry film lubrication or cadmium plating.

Location of Locking Coils

For 1D, 1.5D, and 2D diameter lengths: The center of the locking coil (or coils) equals 1/2 the number of free coils. For 2.5D and 3D diameter lengths: The locking coil is located the same distance from the tang as 2D length inserts.

Screw locking inserts are dyed red for easy identification purposes only.

It is alcohol soluble and can be removed if desired.

Red Dye Coating

PowerCoil screw locking inserts are generally colour coded with an organic red dye for identification purposes. The dye does not affect the installation or performance of the insert and does not need to be removed (in most situations). In situations requiring extreme cleanliness (such as assembly of precision instruments in clean room conditions) the dye may be removed by soaking the inserts in a denatured alcohol solution prior to installation.

MÉTRIC COARSE			MÉTRIC FINE		
Thread mm x mm	Maximum Torque(Nm)	Minimum Torque(Nm)	Thread mm x mm	Maximum Torque(Nm)	Minimum Torque(Nm)
M2.2x0.45	0.14	0.02	M8.0x1.00	6.00	0.80
M2.5x0.45	0.23	0.05	M10.0x1.00	10.50	1.40
M3.0x0.50	0.45	0.10	M10.0x1.25	10.50	1.40
M3.5x0.60	0.68	0.12	M12.0x1.25	15.50	2.10
M4.0x0.70	0.90	0.15	M12.0x1.50	15.50	2.10
M5.0x0.80	1.60	0.30	M14.0x1.50	23.50	3.00
M6.0x1.00	3.00	0.40	M16.0x1.50	31.50	4.20
M7.0x1.00	4.50	0.60	M18.0x1.50	42.00	5.50
M8.0x1.25	6.00	0.80	M20.0x1.50	54.00	7.00
M10.0x1.50	10.50	1.40	M22.0x1.50	67.50	9.00
M12.0x1.75	15.50	2.10	M18.0x2.00	42.00	5.50
M14.0x2.00	23.50	3.00	M20.0x2.00	54.00	7.00
M16.0x2.00	31.50	4.20	M22.0x2.00	67.50	9.00
M18.0x2.50	42.00	5.50	M24.0x2.00	80.00	10.50
M20.0x2.50	54.00	7.00	M27.0x2.00	94.00	12.00
M22.0x2.50	67.50	9.00	M30.0x2.00	108.00	14.00
M24.0x3.00	80.00	10.50	M33.0x2.00	122.00	15.50
M27.0x3.00	94.00	12.00	M36.0x2.00	136.00	17.50
M30.0x3.50	108.00	14.00	M39.0x2.00	150.00	19.50
M33.0x3.50	122.00	15.50	M36.0x3.00	136.00	17.50
M36.0x4.00	136.00	17.50	M39.0x3.00	150.00	19.50
M39.0x4.00	150.00	19.50			

Locking torque values conform to MP3329, MP3330.

PowerCoil Locking Insert Torque Values

UNIFIED NATIONAL COURSE UNC			UNIFIED NATIONAL COURSE UNF		
Thread inch x tpi	Maximum Torque(lb in)	Minimum Torque(lb in)	Thread inch x tpi	Maximum Torque(lb in)	Minimum Torque(lb in)
2x56	1.25	0.19	3x56	0.13	0.44
3x48	2.00	0.44	4x48	0.19	0.63
4x40	3.00	0.63	6x40	6.00	1.00
5x40	4.69	0.81	8x36	9.00	1.50
6x32	6.00	1.00	10x32	13.00	2.00
8x32	9.00	1.50	1/4x28	30.00	3.50
10x24	13.00	2.00	5/16x24	60.00	6.50
12x24	24.00	3.00	3/8x24	80.00	9.50
1/4x20	30.00	4.50	7/16x20	100.00	14.00
5/16x18	60.00	7.50	1/2x20	150.00	18.00
3/8x18	80.00	12.00	9/16x18	200.00	24.00
7/16x14	100.00	16.50	5/8x18	300.00	32.00
1/2x13	150.00	24.00	3/4x16	400.00	50.00
9/16x12	200.00	30.00	7/8x14	600.00	70.00
5/8x11	300.00	40.00	1x12	800.00	90.00
3/4x10	400.00	60.00	1 1/8x12	900.00	117.00
7/8x9	600.00	82.00	1 1/4x12	1000.00	143.00
1x8	800.00	110.00	1 3/8x12	1150.00	165.00
1 1/8x7	900.00	137.00	1 1/2x12	1350.00	190.00
1 1/4x7	1000.00	165.00			
1 3/8x6	1150.00	185.00			
1 1/2x6	1350.00	210.00			

Locking torque values conform to NASM8846

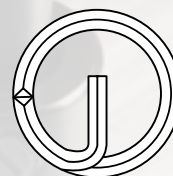
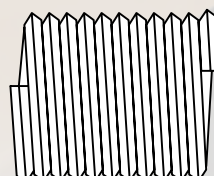
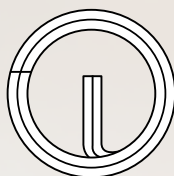
NOTE:

It is also essential that the bolt fully engages all insert coils for maximum strength.

PowerCoil screw locking inserts can be designed to suit a customer's specific needs. In certain instances and applications prevailing torque can be lessened or increased to cater for a specific application. In these situations please contact your PowerCoil representative to discuss your specific requirements.

PLEASE NOTE:

Installation of PowerCoil screw locking inserts requires the use of a pre-winder tool. Please discuss other installation options with your PowerCoil agent.



Matériaux

Les filets rapportés standard PowerCoil sont fabriqués à partir d'acier inoxydable austénitique 304 (18/8), pleinement certifiés pour l'aéronautique en conformité avec la norme DTD 734A.

Les matériaux alternatifs incluent des aciers inoxydables 316 et une variété d'applications spécifiques pour des surfaces revêtues.

Matériaux alternatifs

Bronze de phosphore:

Alliage en cuivre-étain non ferreux, conformément au BS2783 PB 102 EH, approprié pour un fonctionnement à des températures allant de -200°C à +300°C.

Inconel X-750:

Alliage à base de nickel durci résistant aux températures de trempe (spécifications équivalentes SAE AS 7246, DIN/NF 3018, W.NR 2.4669, UNS N07750). L'Inconel X-750 est approprié pour le fonctionnement à des températures allant de -200°C à +550°C.

Inconel X-750:

Alliage à base de nickel durci résistant aux températures de trempe (spécifications équivalentes SAE AS 7246, DIN/NF 3018, W.NR 2.4669, UNS N07750). L'Inconel X-750 est approprié pour le fonctionnement à des températures allant de -200°C à +550°C.

Nimonic 90

Alliage à base de nickel résistant aux températures élevées conformément au BS2 HR 501 (spécifications équivalentes W.NR 2.4632, UNS N07090). Le Nimonic 90 est approprié pour le fonctionnement à des températures allant de -100°C à +650°C.

Matériau du filet	Températ. Max pic - continue	Applications classiques	Revêtements
Acier inoxydable	425°C 800°F	315°C 600°F applications générales avec tous les matériaux	FL, AG, CD
Acier inoxydable	425°C 800°F	315°C 600°F Meilleure résistance à la corrosion pour les applications en eau de mer	FL, AG, CD
Bronze de phosphore	300°C 572°F	235°C 455°F Pièces en cuivre, non magnétiques et à faible perméabilité	AG, CD
Inconel X-750	650°C 1200°F	550°C 1020°F Aéronautique, turbines, environnements corrosifs, températures élevées	AG
Nimonic 90	650°C 1200°F	550°C 1020°F Aéronautique et turbines	AG

Alternatives de finition et revêtements

Finition au cadmium

Cadmium électro-déposé en conformité avec le DTD 904/Def Stan 03-19 (spécifications équivalentes à FED. QQ-P-416, LN 9368). La finition au cadmium fournit une excellente barrière entre des métaux distincts réduisant ainsi de manière très importante les effets de la corrosion galvanique. Sa lubrification élevée et son excellente résistance à la corrosion prévient le frottement entre les composants du taraudage. La finition au cadmium est recommandée pour travailler à des températures allant de -200°C à +235°C.

Les pièces plaquées au cadmium ne doivent pas

- être soumises à des températures supérieures à 235°C (455°F)
- entrer en contact avec du combustible ou de l'huile chaude
- entrer en contact avec de la nourriture ou de l'eau potable
- être utilisées avec des composants en titane (directement ou indirectement). A des températures élevées, une fragilisation et les dommages qui en résultent peuvent apparaître.
- Le cadmium est hautement toxique ; en conséquence, une attention particulière doit être observée durant le transport, la manipulation et l'installation.

Finition au zinc

Le zinc est déposé électrolytiquement conformément au BS 3382. Le zinc électro-déposé est la finition la plus largement utilisée dans l'industrie. Le zinc est recommandé pour travailler à des températures allant de -200°C à +250°C.

Finition en argent

L'argent est déposé électrolytiquement conformément au DTD 939. Le plaquage en argent est utilisé afin de prévenir le frottement entre les composants du filetage qui peut apparaître lors d'applications à des températures élevées et il est le plus largement appliqué pour les vis des moteurs d'avion. La finition en argent est recommandée pour travailler à des températures allant de -200°C à +650°C. Les filets rapportés plaqués à l'argent peuvent être utilisés dans divers

matériaux incluant les alliages d'aluminium, les alliages de magnésium, les matériaux résistants à la chaleur et à la corrosion...

Les filets rapportés avec une finition argent ne sont pas recommandés pour une pose dans des alliages de titane qui pourraient excéder des températures de 300°C (570°F). Une corrosion importante pourrait survenir, résultante de la combinaison argent-titane.

Film de lubrifiant sec

Une pellicule solide résistant à la chaleur, revêtue d'une pellicule de lubrifiant sèche, en conformité avec le MIL-L-0046010, fournit un revêtement avec un faible coefficient de friction et avec d'excellentes capacités de portance. Le film de lubrifiant sec prévient le frottement entre les composants filetés et est particulièrement efficace dans les applications de filets rapportés à frein. Le film de lubrifiant sec est recommandé pour travailler à des températures allant de -100°C à +250°C.

Finition	Suffixe du no. de pièce	Spécifications applicables aux processus
Argent	AG	DTD 939
Cadmium	CD	QQP-416 ou DEF STD 03-19
Film de lubrifiant sec	FL	MIL-L-8937 or MIL-L-46010
Colorant rouge	—	Appliqué aux filets rapportés à frein pour leur identification*

* des colorants d'autre couleur peuvent être utilisés à des fins d'identification particulière

Sélection de la longueur correcte du filet rapporté

Les filets rapportés PowerCoil sont disponibles pour tous les types de filetages classiques. Cinq longueurs de filets rapportés sont disponibles pour chaque taille de filet. Il est important de sélectionner la longueur correcte de filet rapporté afin d'équilibrer la dureté du matériel de la vis avec la dureté du matériel récepteur. Les cinq longueurs de filet rapporté, 1D, 1.5D, 2D, 2.5D et 3D sont indiquées dans la zone ombragée du tableau ci-dessous. Les valeurs sont préalablement calculées puisque les filets rapportés ne peuvent pas être mesurés à l'état libre (non posés). Les nombres sont des multiples du diamètre nominal du filet rapporté. Les longueurs actuelles du filet rapporté posé sont énumérées dans les tableaux de sélection des filets rapportés. Elles représentent la longueur réelle lorsqu'ils sont posés, plus 1/2 pas. A l'aide du tableau ci-dessous, la longueur du filet rapporté peut être sélectionnée afin de produire un filetage suffisamment résistant permettant que se casse la vis avant d'endommager le matériel récepteur ou le filet rapporté.

Longueur nominale recommandée du filet rapporté basée sur la résistance du matériel récepteur versus longueur de la vis

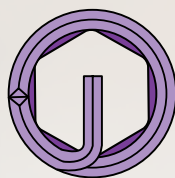
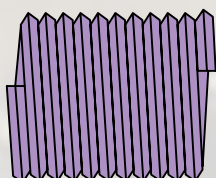
Résistance matériel récepteur (KSI)	Unifié (source BS7752 Part 1:1994)									
	Matériel de la vis/résistance à la traction (KSI) - (Livre / Pouce ²)									
	54	75	96	108	125	132	160	180	220	
10	2.0	2.5	3.0	3.0	—	—	—	—	—	
15	1.5	1.5	2.0	2.5	2.5	3.0	—	—	—	
20	1.0	1.5	1.5	2.0	2.0	2.0	2.5	3.0	3.0	
25	1.0	1.0	1.5	1.5	1.5	2.0	2.0	2.5	2.5	
30	1.0	1.0	1.0	1.5	1.5	1.5	2.0	2.0	2.5	
40	1.0	1.0	1.0	1.0	1.0	1.5	1.5	1.5	2.0	
50	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.5	1.5	

EXEMPLE : Si la résistance du matériau récepteur est de 10KSI et la résistance à la traction de la vis de 54 KSI, la longueur correcte du filet rapporté est de 2.0 x diamètre (2D).

Résistance matériel récepteur (MPa)	METRIQUE							
	Matériel de la vis/résistance à la traction (Mpa)							
	300	400	500	600	800	1000	1200	1400
70	1.5	2.0	2.5	2.5	—	—	—	—
100	1.0	1.5	1.5	2.0	2.5	3.0	—	—
150	1.0	1.0	1.5	1.5	2.0	2.0	2.5	3.0
200	1.0	1.0	1.0	1.0	1.5	1.5	2.0	2.5
250	1.0	1.0	1.0	1.0	1.0	1.5	1.5	2.0
300	1.0	1.0	1.0	1.0	1.0	1.5	1.5	1.5
350	1.0	1.0	1.0	1.0	1.0	1.0	1.5	1.5

EXEMPLE : Si la résistance du matériau récepteur est de 150Mpa et la résistance à la traction de la vis de 600Mpa, la longueur correcte du filet rapporté est de 1.5 x diamètre (1.5D).





Projection de la vis

Les filets rapportés PowerCoil sont conçus pour être utilisés avec des vis standards, facilement disponibles qui ne demandent pas de spécificités particulières.

La vis doit s'accoupler sur toute la longueur du filet rapporté pour atteindre la résistance maximale de l'assemblage. Afin d'éviter un accouplage partiel, il est recommandé de toujours casser la languette/tenon d'entraînement. Cela garantira également que les spires de sécurité soient parfaitement en contact avec tous les filets de la vis. Si vous avez besoin de visualiser le design de ce fonctionnement, contactez CELESA, SA pour demander assistance.

REMARQUES :

1. Les résistances spécifiées sont les résistances minimales des vis. Lorsque vous choisissez une longueur de filet rapporté, vous devez prendre en considération la résistance maximale de la vis ou ses spécifications.
2. La température peut provoquer des variations significatives des valeurs de résistance, en conséquence de quoi une marge doit être permise.
3. L'importance des valeurs de cisaillement doit être prise en compte étant donné que le matériel récepteur est sujet à une contrainte de cisaillement sur la majeure partie du diamètre du trou taraudé.
4. Lorsque les valeurs de résistance se trouvent entre deux valeurs du tableau, utilisez la valeur immédiatement inférieure de résistance du matériel, ou la valeur immédiatement supérieure de résistance de la vis.
5. Pour atteindre la résistance maximale, la longueur de la vis et celle du filetage, de même que la profondeur du trou taraudé, doivent être suffisantes pour assurer un accouplage complet de tous les filets sur toute la longueur du filet rapporté.

Filets rapportés à frein

Les filets rapportés PowerCoil à frein sont conçus pour les applications sujettes aux effets causés par les vibrations cycliques ou par les impacts. Les filets rapportés à frein exercent une force de serrage sur les filets des vis afin d'éviter leur perte due aux vibrations et aux impacts. Ils éliminent le besoin d'utiliser d'autres mécanismes de sécurité, moins désirables et plus chers. Ils sont excellents lorsqu'ils sont utilisés dans des applications de « réglage de vis » évitant le déplacement de la vis.

Fonctionnement des filets rapportés à frein

Les filets rapportés PowerCoil à frein offrent une sécurité supplémentaire relativement aux filets rapportés standards. Ceci est obtenu grâce à la pression radiale exercée sur les flancs de la vis par une spire à déformation polygonale positionnée sur la longueur du filet rapporté. A mesure que la vis passe à travers les filets, la spire de freinage se déplace et exerce une pression radiale sur les filets de la vis.

Lorsque l'on retire la vis, la spire de freinage reprend sa forme originale, permettant des assemblages répétés tout en conservant un niveau de serrage permanent.

Veuillez noter :

Il est recommandé d'utiliser uniquement des vis lubrifiées ou fermées et revêtues avec les filets rapportés PowerCoil à frein. Si l'on utilise des vis en acier inoxydable ou non revêtues, un lubrifiant anti-friction, comme par exemple du disulfure de molybdène, doit être utilisé afin de minimiser la friction et assurer une durée de vie maximale. La vie utile d'une vis placée dans un filet rapporté à frein PowerCoil peut être augmentée en appliquant un lubrifiant sec ou un revêtement de cadmium.

Emplacement des spires de freinage

Pour les longueurs de diamètre 1D, 1.5D et 2D, le centre de la spire polygonale de freinage est à la moitié du nombre des spires libres. Pour les longueurs de diamètre 2.5D et 3D : la spire de freinage est située à la même distance du tenon que pour les filets rapportés de longueur 2D.

Revêtement de teinture rouge

Les filets rapportés PowerCoil à frein ont généralement un code couleur à l'aide d'un colorant organique à des fins d'identification. Le colorant n'affecte en aucune manière l'installation ou les performances du filet rapporté et il n'est pas nécessaire de l'éliminer (dans la majorité des situations). Dans les situations qui nécessitent une propreté extrême (comme l'assemblage d'instruments de précision dans une pièce propre), le colorant peut être éliminé en immergeant les filets rapportés dans une solution d'alcool dénaturé avant d'être posés.

Valeurs de couple du Filet rapporté à Frein PowerCoil

MÉTRIQUE			MÉTRIQUE FINE		
mm x mm	Maximum (Nm)	Minimum (Nm)	mm x mm	Maximum (Nm)	Minimum (Nm)
M2.2x0.45	0.14	0.02	M8.0x1.00	6.00	0.80
M2.5x0.45	0.23	0.05	M10.0x1.00	10.50	1.40
M3.0x0.50	0.45	0.10	M10.0x1.25	10.50	1.40
M3.5x0.60	0.68	0.12	M12.0x1.25	15.50	2.10
M4.0x0.70	0.90	0.15	M12.0x1.50	15.50	2.10
M5.0x0.80	1.60	0.30	M14.0x1.50	23.50	3.00
M6.0x1.00	3.00	0.40	M16.0x1.50	31.50	4.20
M7.0x1.00	4.50	0.60	M18.0x1.50	42.00	5.50
M8.0x1.25	6.00	0.80	M20.0x1.50	54.00	7.00
M10.0x1.50	10.50	1.40	M22.0x1.50	67.50	9.00
M12.0x1.75	15.50	2.10	M18.0x2.00	42.00	5.50
M14.0x2.00	23.50	3.00	M20.0x2.00	54.00	7.00
M16.0x2.00	31.50	4.20	M22.0x2.00	67.50	9.00
M18.0x2.50	42.00	5.50	M24.0x2.00	80.00	10.50
M20.0x2.50	54.00	7.00	M27.0x2.00	94.00	12.00
M22.0x2.50	67.50	9.00	M30.0x2.00	108.00	14.00
M24.0x3.00	80.00	10.50	M33.0x2.00	122.00	15.50
M27.0x3.00	94.00	12.00	M36.0x2.00	136.00	17.50
M30.0x3.50	108.00	14.00	M39.0x2.00	150.00	19.50
M33.0x3.50	122.00	15.50	M36.0x3.00	136.00	17.50
M36.0x4.00	136.00	17.50	M39.0x3.00	150.00	19.50
M39.0x4.00	150.00	19.50			

Valeurs du couple de freinage en conformité avec MP3329, MP3330, MP3331

Valeurs de couple du la norme Filet rapporté à Frein PowerCoil

UNC			UNF		
inch x tpi	Maximum (lb in)	Minimum (lb in)	inch x tpi	Maximum (lb in)	Minimum (lb in)
2x56	1.25	0.19	3x56	0.13	0.44
3x48	2.00	0.44	4x48	0.19	0.63
4x40	3.00	0.63	6x40	6.00	1.00
5x40	4.69	0.81	8x36	9.00	1.50
6x32	6.00	1.00	10x32	13.00	2.00
8x32	9.00	1.50	1/4x28	30.00	3.50
10x24	13.00	2.00	5/16x24	60.00	6.50
12x24	24.00	3.00	3/8x24	80.00	9.50
1/4x20	30.00	4.50	7/16x20	100.00	14.00
5/16x18	60.00	7.50	1/2x20	150.00	18.00
3/8x18	80.00	12.00	9/16x18	200.00	24.00
7/16x14	100.00	16.50	5/8x18	300.00	32.00
1/2x13	150.00	24.00	3/4x16	400.00	50.00
9/16x12	200.00	30.00	7/8x14	600.00	70.00
5/8x11	300.00	40.00	1x12	800.00	90.00
3/4x10	400.00	60.00	11/8x12	900.00	117.00
7/8x9	600.00	82.00	11/4x12	1000.00	143.00
1x8	800.00	110.00	13/8x12	1150.00	165.00
11/8x7	900.00	137.00	11/2x12	1350.00	190.00
11/4x7	1000.00	165.00			
13/8x6	1150.00	185.00			
11/2x6	1350.00	210.00			

Valeurs du couple de freinage en conformité avec la norme NASM8846

REMARQUE :

Il est essentiel que la vis soit complètement accouplée avec toutes les spires du filet rapporté pour assurer une résistance maximale.

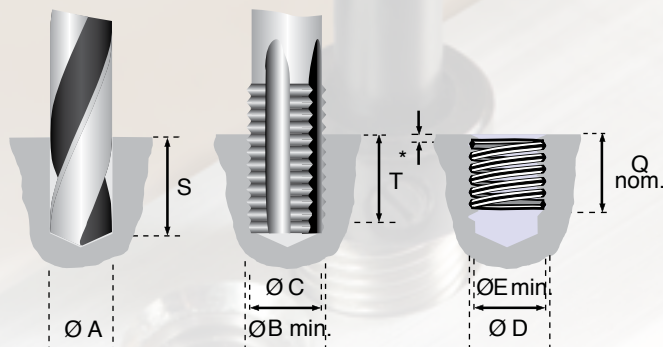
Les filets rapportés à frein PowerCoil peuvent être conçus pour répondre aux besoins particuliers du client. Dans certains cas, le couple de serrage peut être diminué ou augmenté afin de répondre aux besoins d'une application spécifique. Dans ce cas, veuillez contacter CELESA, SA pour évaluer vos besoins particuliers.

REMARQUE:

L'installation des filets rapportés à frein PowerCoil exige l'utilisation d'un outil spécial. Veuillez discuter des autres options d'installation avec le département commercial de CELESA, SA.

M/MF	
A	Ø de taladrado o interior de rosca previa.
B	Ø mayor de rosca previa (Mínima).
C	Ø de flancos de rosca previa.
D	Ø de flancos de inserto instalado.
E	Ø interior del inserto instalado (Mínimo).
FC	Ø exterior del inserto en estado libre.
S	Profundidad del taladrado (Mínima).
T	Profundidad "útil" de roscado (Mínima).
Q	Rosca "útil" del inserto.
NC	Número de filetes o hilos

M/MF	
A	Ø de perçage ou intérieur de l'avant-trou
B	Ø supérieur de l'avant-trou
C	Ø de flanc de l'avant-trou
D	Ø de flanc du filet rapporté posé
E	Ø intérieur du filet rapporté posé (mini.)
FC	Ø extérieur du filet rapporté à l'état libre
S	Profondeur de perçage (mini.)
T	Profondeur "utile" du taraudage (mini.)
Q	Filetage "utile" du filet rapporté
NC	Nombre de filets



IMPORTANTE: El éxito o fracaso de operaciones de taladrado y roscado dependen especialmente del material a trabajar. Las dimensiones detalladas son recomendaciones generales no específicas para un material concreto. Sin embargo, conviene que sean tenidas en cuenta ya que cumplen los requisitos marcados por los standards aplicables y los más reconocidos fabricantes. Para encontrar información relativa a diferentes standards, acuda a la Web www.bluemaster.es.

IMPORTANT: Le succès ou l'échec d'une opération de perçage et de taraudage dépend particulièrement du matériel à travailler. Les dimensions spécifiées sont des recommandations générales non spécifiques pour un matériel concret. Néanmoins, il convient de les prendre en compte étant donné qu'elles répondent aux exigences stipulées par les standards et les fabricants les plus reconnus. Pour retrouver l'information relative aux différents standards, rendez-vous sur la page web: www.bluemaster.es

Para obtener el mayor rendimiento posible del inserto, debe ser introducido 0.5 ó 1 vez el paso por debajo de agujero roscado. Ello significa que la longitud real que ofrece el inserto es la dimensión "Q" restando 0.5 ó 1 vez el paso. La dimensión "S" representa la profundidad del agujero, mientras que la "T" representa la longitud roscada útil, que puede variar en función de la longitud del cono de entrada del macho empleado.

Pour obtenir les meilleures performances du filet rapporté, celui-ci doit être posé à une profondeur de 1/2 pas à 1 pas en dessous de la surface du trou taraudé. Cela signifie que la longueur réelle qu'offre le filet rapporté est la dimension "Q" de laquelle on retire 0,5 ou 1 fois le pas. La dimension "S" représente la profondeur du trou tandis que le "T" représente la longueur taraudée utile, qui peut varier en fonction de la longueur du cône d'entrée du taraud utilisé.

MEDIDA / SIZE / DIMENSION mm	Broca / Drill / Foret mm		A max/min mm	B mm	C (5H) mm	D (4H) mm	C (6H) mm	D (5H) mm	E mm	FC Max/Min mm
MÉTRICA/METRIC										
M2 X 0.40	2.10	#45	2.177 / 2.087	2.520	2.296 / 2.260	1.796 / 1.740	2.311 / 2.260	1.811 / 1.740	1.567	2.49 / 2.70
M2.2 X 0.45	2.30	#42	2.397 / 2.297	2.785	2.532 / 2.492	1.968 / 1.908	2.547 / 2.492	1.983 / 1.908	1.713	2.76 / 3.00
M2.5 X 0.45	2.60	#37	2.697 / 2.597	3.085	2.832 / 2.792	2.268 / 2.208	2.847 / 2.792	2.283 / 2.208	2.013	3.05 / 3.70
M3 X 0.50	3.20	1/8	3.220 / 3.108	3.650	3.367 / 3.325	2.738 / 2.675	3.384 / 3.325	2.755 / 2.675	2.459	3.61 / 4.35
M3.5 X 0.60	3.70	#27	3.755 / 3.630	4.279	3.940 / 3.890	3.181 / 3.110	3.959 / 3.890	3.200 / 3.110	2.850	4.24 / 4.95
M4 X 0.70	4.20	11/64	4.292 / 4.152	4.909	4.509 / 4.455	3.620 / 3.545	4.529 / 4.455	3.640 / 3.545	3.242	4.86 / 5.60
M5 X 0.80	5.20	13/64	5.333 / 5.173	6.039	5.577 / 5.520	4.560 / 4.480	5.597 / 5.520	4.580 / 4.480	4.134	5.98 / 6.80
M6 X 1.00	6.30	1/4	6.406 / 6.216	7.299	6.719 / 6.650	5.445 / 5.350	6.742 / 6.650	5.468 / 5.350	4.917	7.23 / 7.95
M7 X 1.00	7.30	9/32	7.406 / 7.216	8.299	7.719 / 7.650	6.445 / 6.350	7.742 / 7.650	6.468 / 6.350	5.917	8.22 / 9.20
M8 X 1.25	8.30	21/64	8.483 / 8.271	9.624	8.886 / 8.812	7.288 / 7.188	8.912 / 8.812	7.313 / 7.188	6.647	9.53 / 10.35
M8 X 1.00	8.30	21/64	8.406 / 8.216	9.299	8.719 / 8.650	7.445 / 7.350	8.742 / 8.650	7.468 / 7.350	6.917	9.39 / 10.25
M9 X 1.25	9.40	3/8	9.483 / 9.271	10.624	9.886 / 9.812	8.288 / 8.188	9.912 / 9.812	8.313 / 8.188	7.647	10.52 / 11.16
M9 X 1.00	9.30	23/64	9.406 / 9.216	10.299	9.719 / 9.650	8.445 / 8.350	9.742 / 9.650	8.468 / 8.350	7.917	10.40 / 11.23
M10 X 1.50	10.40	13/32	10.561 / 10.325	11.949	11.061 / 10.974	9.138 / 9.026	11.089 / 10.974	9.166 / 9.026	8.376	11.83 / 12.50
M10 X 1.25	10.30	13/32	10.483 / 10.271	11.624	10.886 / 10.812	9.288 / 9.188	10.912 / 10.812	9.313 / 9.188	8.647	11.74 / 12.65
M10 X 1.00	10.30	13/32	10.406 / 10.216	11.299	10.724 / 10.650	9.445 / 9.350	10.742 / 10.650	9.468 / 9.350	8.917	11.41 / 12.50
M11 X 1.50	11.40	7/16	11.561 / 11.325	12.949	12.061 / 11.974	10.138 / 10.026	12.089 / 11.974	10.166 / 10.026	9.376	12.82 / 13.59
M11 X 1.25	11.30	7/16	11.483 / 11.271	12.624	11.898 / 11.812	10.300 / 10.188	11.926 / 11.812	10.328 / 10.188	9.647	12.75 / 13.76
M11 X 1.00	11.30	7/16	11.406 / 11.216	12.299	11.724 / 11.650	10.445 / 10.350	11.742 / 11.650	10.468 / 10.350	9.917	12.42 / 13.41
M12 X 1.75	12.50	31/64	12.644 / 12.379	14.273	13.236 / 13.137	10.988 / 10.863	13.271 / 13.137	11.023 / 10.863	10.106	14.13 / 15.00
M12 X 1.50	12.40	31/64	12.561 / 12.325	13.949	13.067 / 12.974	11.144 / 11.026	13.099 / 12.974	11.176 / 11.026	10.376	14.09 / 15.20
M12 X 1.25	12.30	31/64	12.483 / 12.271	13.624	12.898 / 12.812	11.300 / 11.188	12.926 / 12.812	11.328 / 11.188	10.647	13.76 / 15.00
M12 X 1.00	12.30	31/64	12.406 / 12.216	13.299	12.724 / 12.649	11.450 / 11.350	12.749 / 12.649	11.475 / 11.350	10.917	13.43 / 14.49
M13 X 1.75	13.50	33/64	13.644 / 13.379	15.273	14.236 / 14.137	11.988 / 11.863	14.271 / 14.137	12.023 / 11.863	11.106	15.12 / 16.04
M13 X 1.50	13.20	33/64	13.561 / 13.325	14.949	14.067 / 13.974	12.144 / 12.026	14.099 / 13.974	12.176 / 12.026	11.376	15.10 / 16.29
M13 X 1.25	13.20	33/64	13.483 / 13.271	14.624	13.898 / 13.812	12.300 / 12.188	13.926 / 13.812	12.328 / 12.188	11.647	14.77 / 15.94
M14 X 2.00	14.50	37/64	14.733 / 14.433	16.598	15.406 / 15.299	12.833 / 12.701	15.444 / 15.299	12.871 / 12.701	11.835	16.43 / 17.35
M14 X 1.50	14.40	9/16	14.561 / 14.325	15.949	15.067 / 14.974	13.144 / 13.026	15.099 / 14.974	13.176 / 13.026	12.376	16.11 / 17.25
M14 X 1.25	14.30	9/16	14.483 / 14.271	15.624	14.898 / 14.812	13.300 / 13.188	14.926 / 14.812	13.328 / 13.188	12.674	15.78 / 17.03
M14 X 1.00	14.30	9/16	14.406 / 14.216	15.299	14.724 / 14.649	13.450 / 13.350	14.749 / 14.649	13.475 / 13.350	12.917	15.45 / 16.68
M15 X 2.00	15.50	39/64	15.733 / 15.433	17.598	16.406 / 16.299	13.833 / 13.701	16.444 / 16.299	13.871 / 13.701	12.835	17.42 / 18.48
M15 X 1.50	15.30	39/64	15.561 / 15.325	16.949	16.067 / 15.974	14.144 / 14.026	16.099 / 15.974	14.176 / 14.026	13.376	17.12 / 18.47
M16 X 2.00	16.50	21/32	16.733 / 16.433	18.598	17.406 / 17.299	14.833 / 14.701	17.444 / 17.299	14.871 / 14.701	13.835	18.41 / 19.60
M16 X 1.50	16.50	21/32	16.561 / 16.325	17.949	17.067 / 16.974	15.144 / 15.026	17.099 / 16.974	15.176 / 15.026	14.376	18.13 / 19.60
M18 X 2.50	18.80	47/64	18.896 / 18.541	21.248	19.738 / 19.624	16.516 / 16.376	19.778 / 19.624	16.556 / 16.376	15.294	21.04 / 22.00
M18 X 2.00	18.50	23/32	18.733 / 18.433	20.598	19.406 / 19.299	16.833 / 16.701	19.444 / 19.299	16.871 / 16.701	15.835	20.80 / 21.85
M18 X 1.50	18.50	23/32	18.561 / 18.325	19.949	19.067 / 18.974	17.144 / 17.026	19.099 / 18.974	17.176 / 17.026	16.376	20.15 / 21.75
M20 X 2.50	20.80	13/16	20.896 / 20.541	23.248	21.738 / 21.624	18.516 / 18.376	21.778 / 21.624	18.556 / 18.376	17.294	23.02 / 24.40
M20 X 2.00	20.50	13/16	20.733 / 20.433	22.598	21.406 / 21.299	18.833 / 18.701	21.444 / 21.299	18.871 / 18.701	17.835	22.82 / 24.05
M20 X 1.50	20.50	13/16	20.561 / 20.325	21.949	21.067 / 20.974	19.144 / 19.026	21.099 / 20.974	19.176 / 19.026	18.376	22.17 / 24.00
M22 X 2.50	22.80	57/64	22.896 / 22.541	25.248	23.738 / 23.624	20.516 / 20.376	23.778 / 23.624	20.556 / 20.376	19.294	25.00 / 26.90
M22 X 2.00	22.50	57/64	22.733 / 22.433	24.598	23.406 / 23.299	20.833 / 20.701	23.444 / 23.299	20.871 / 20.701	19.835	24.84 / 26.50
M22 X 1.50	22.50	57/64	22.561 / 22.325	23.949	23.067 / 22.974	21.144 / 21.026	23.099 / 22.974	21.176 / 21.026	20.376	24.19 / 26.45
M24 X 3.00	25.00	31/32	25.050 / 24.650	27.897	26.093 / 25.948	22.221 / 22.051	26.135 / 25.948	22.263 / 22.051	20.752	27.62 / 29.00
M24 X 2.00	24.50	31/32	24.733 / 24.433	26.598	25.414 / 25.299	22.841 / 22.701	25.454 / 25.299	22.881 / 22.701	21.835	26.86 / 29.10
M24 X 1.50	24.50	31/32	24.561 / 24.325	25.949	25.044 / 24.975	23.121 / 23.026	25.135 / 24.975	23.186 / 23.026	22.376	26.21 / 28.28
M26 X 1.50	26.50	1.1/32	26.561 / 26.325	27.949	27.044 / 26.975	25.121 / 25.026	27.135 / 26.975	25.186 / 25.026	24.376	28.23 / 30.46
M27 X 3.00	28.00	1.3/32	28.050 / 27.650	30.897	29.093 / 28.948	25.221 / 25.051	29.135 / 28.948	25.263 / 25.051	23.752	30.59 / 32.40
M27 X 2.00	27.50	1.5/64	27.733 / 27.433	29.598	28.414 / 28.299	25.841 / 25.701	28.454 / 28.299	25.881 / 25.701	24.835	29.89 / 32.30
M30 X 3.50	31.00	1.7/32	31.208 / 30.758	34.547	32.428 / 32.273	27.907 / 27.727	32.472 / 32.273	27.951 / 27.727	26.211	34.20 / 35.81
M30 X 3.00	31.00	1.7/32	31.050 / 30.650	33.897	32.093 / 31.948	28.221 / 28.051	32.135 / 31.948	28.263 / 28.051	26.752	34.24 / 36.10
M30 X 2.00	30.50	1.3/16	30.733 / 30.433	32.598	31.414 / 31.299	28.841 / 28.701	31.454 / 31.299	28.881 / 28.701	27.835	32.92 / 35.70
M33 X 3.50	34.00	1.21/64	34.208 / 33.758	37.547	35.428 / 35.273	30.907 / 30.727	35.472 / 35.273	30.951 / 30.727	29.211	37.17 / 38.80
M33 X 3.00	33.50	1.5/16	34.050 / 33.650	36.897	35.093 / 34.948	31.221 / 31.051	35.135 / 34.948	31.263 / 31.051	29.752	37.27 / 39.50
M33 X 2.00	33.50	1.5/16	33.733 / 33.433	35.598	34.414 / 34.299	31.841 / 31.701	34.454 / 34.299	31.881 / 31.701	30.835	35.95 / 39.20
M36 X 4.00	37.00	1.29/64	37.341 / 36.866	41.196	38.763 / 38.598	33.592 / 33.402	38.809 / 38.598	33.638 / 33.402	31.670	40.78 / 42.67
M36 X 3.00	37.00	1.29/64	37.050 / 36.650	39.897	38.093 / 37.948	34.221 / 34.051	38.135 / 37.948	34.263 / 34.051	32.752	40.30 / 42.70
M39 X 4.00	40.00	1.9/16	40.341 / 39.866	44.196	41.763 / 41.598	36.592 / 36.402	41.809 / 41.598	36.638 / 36.402	34.670	43.75 / 45.75
M42 X 4.50	43.00	1.11/16	43.505 / 42.975	47.846	45.098 / 44.923	39.277 / 39.077	45.147 / 44.923	39.327 / 39.077	37.129	47.37 / 49.00
M42 X 3.00	42.50	1.11/16	43.050 / 42.650	45.897	44.093 / 43.948	40.221 / 40.051	44.135 / 43.948	40.263 / 40.051	38.752	46.36 / 49.00

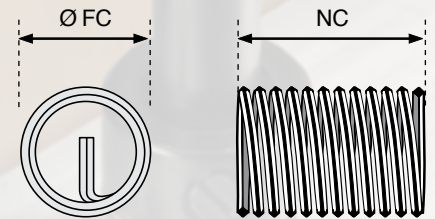
powercoil



powercoil
by CELESA

M/MF	
A	Minor Diameter
B	Major Diameter
C	Pitch Diameter of Tapped Hole (Class 5H)
D	Pitch Diameter of Installed Insert (Class 4H)
E	Installed Insert Internal Diameter - min.
FC	Free Coil Diameter of Un-installed Insert

M/MF	
S	Drilling Length - minimum
T	Tapping Length - minimum
Q	Nominal Length
NC	Number of Coils in Un-installed Insert counted 90° from tang



IMPORTANT The success of any drill and tapping operation is dependant upon many factors –type of material being cut, cutting speed, coolant, equipment being used – and it is not possible to give specific drill sizes for each material. Drill sizes shown are recommendations only and PowerCoil would strongly suggest that independent testing be performed for specific and critical applications.

When using wire thread inserts it is important that the drilling and tapping diameters and lengths listed below are adhered to.

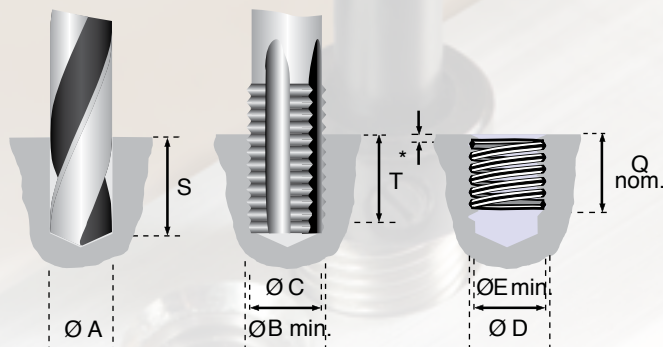
The figures outlined in these tables encompass effective free coil tolerances for most globally recognized standards and manufacturers, including those of reduced diameter wire thread inserts.

PowerCoil wire thread inserts can be manufactured to different standards upon request. Technical data on these standards can be obtained from our website – www.bluemaster.es

S					T					Q					NC max/min				
1.0D	1.5D	2.0D	2.5D	3.0D	1.0D	1.5D	2.0D	2.5D	3.0D	1.0D	1.5D	2.0D	2.5D	3.0D	1.0D	1.5D	2.0D	2.5D	3.0D
3.80	4.80	5.80	6.80	7.80	3.40	4.40	5.40	6.40	7.40	2.00	3.00	4.00	5.00	6.00	3.30/3.00	5.70/5.20	8.10/7.40	10.50/9.60	13.00/11.80
4.23	5.33	6.43	7.53	8.63	3.78	4.88	5.98	7.08	8.18	2.20	3.30	4.40	5.50	6.60	3.20/2.90	5.50/5.00	7.90/7.10	10.30/9.30	12.60/11.40
4.53	5.78	7.03	8.28	9.53	4.08	5.33	6.58	7.83	9.08	2.50	3.75	5.00	6.25	7.50	3.80/3.10	6.50/5.20	9.20/7.40	11.90/9.50	14.60/11.70
5.25	6.75	8.25	9.75	11.25	4.75	6.25	7.75	9.25	10.75	3.00	4.50	6.00	7.50	9.00	4.30/3.40	7.20/5.80	10.10/8.20	13.10/10.50	16.00/12.90
6.20	7.95	9.70	11.45	13.20	5.60	7.35	9.10	10.85	12.60	3.50	5.25	7.00	8.75	10.50	4.10/3.40	7.00/5.80	9.80/8.20	12.60/10.50	15.50/12.90
7.15	9.15	11.15	13.15	15.15	6.45	8.45	10.45	12.45	14.45	4.00	6.00	8.00	10.00	12.00	4.00/3.40	6.80/5.70	9.60/8.10	12.30/10.50	15.10/12.80
8.60	11.10	13.60	16.10	18.60	7.80	10.30	12.80	15.30	17.80	5.00	7.50	10.00	12.50	15.00	4.50/3.90	7.60/6.50	10.60/9.20	13.70/11.80	16.70/14.40
10.50	13.50	16.50	19.50	22.50	9.50	12.50	15.50	18.50	21.50	6.00	9.00	12.00	15.00	18.00	4.30/3.80	7.20/6.40	10.10/9.10	13.10/11.70	16.00/14.30
11.50	15.00	18.50	22.00	25.50	10.50	14.00	17.50	21.00	24.50	7.00	10.50	14.00	17.50	21.00	5.30/4.60	8.70/7.70	12.10/10.70	15.60/13.70	19.00/16.70
13.63	17.63	21.63	25.63	29.63	12.38	16.38	20.38	24.38	28.38	8.00	12.00	16.00	20.00	24.00	4.70/4.20	7.80/7.10	10.90/9.90	14.10/12.80	17.20/15.60
12.50	16.50	20.50	24.50	28.50	11.50	15.50	19.50	23.50	27.50	8.00	12.00	16.00	20.00	24.00	6.10/5.60	10.00/9.10	13.80/12.50	17.70/16.00	21.50/19.50
14.63	19.13	23.63	28.13	32.63	13.38	17.88	22.38	26.88	31.38	9.00	13.50	18.00	22.50	27.00	5.50/5.10	9.00/8.40	12.50/11.70	16.10/15.00	19.60/18.30
13.50	18.00	22.50	27.00	31.50	12.50	17.00	21.50	26.00	30.50	9.00	13.50	18.00	22.50	27.00	7.10/6.50	11.50/10.50	15.80/14.50	20.20/18.50	24.50/22.50
16.75	21.75	26.75	31.75	36.75	15.25	20.25	25.25	30.25	35.25	10.00	15.00	20.00	25.00	30.00	4.90/4.60	8.20/7.70	11.50/10.80	14.70/13.80	18.00/16.90
15.63	20.63	25.63	30.63	35.63	14.38	19.38	24.38	29.38	34.38	10.00	15.00	20.00	25.00	30.00	6.10/5.60	10.00/9.20	13.80/12.70	17.70/16.30	21.50/19.80
14.50	19.50	24.50	29.50	34.50	13.50	18.50	23.50	28.50	33.50	10.00	15.00	20.00	25.00	30.00	8.10/7.30	12.90/11.70	17.80/16.10	22.60/20.50	27.50/24.90
17.75	23.25	28.75	34.25	39.75	16.25	21.75	27.25	32.75	38.25	11.00	16.50	22.00	27.50	33.00	5.60/5.20	9.20/8.60	12.80/12.00	16.40/15.40	20.00/18.70
16.63	22.13	27.63	33.13	38.63	15.38	20.88	26.38	31.88	37.38	11.00	16.50	22.00	27.50	33.00	6.90/6.40	11.20/10.30	15.40/14.20	19.70/18.10	23.90/22.00
15.50	21.00	26.50	32.00	37.50	14.50	20.00	25.50	31.00	36.50	11.00	16.50	22.00	27.50	33.00	9.10/8.40	14.40/13.30	19.80/18.20	25.10/23.10	30.40/28.00
19.88	25.88	31.88	37.88	43.88	18.13	24.13	30.13	36.13	42.13	12.00	18.00	24.00	30.00	36.00	5.10/4.80	8.50/7.90	11.90/11.10	15.20/14.20	18.60/17.30
18.75	24.75	30.75	36.75	42.75	17.25	23.25	29.25	35.25	41.25	12.00	18.00	24.00	30.00	36.00	6.10/5.60	10.00/9.20	13.80/12.70	17.70/16.20	21.50/19.80
17.63	23.63	29.63	35.63	41.63	16.38	22.38	28.38	34.38	40.38	12.00	18.00	24.00	30.00	36.00	7.70/7.00	12.40/11.20	17.00/15.50	21.60/19.70	26.30/23.90
16.50	22.50	28.50	34.50	40.50	15.50	21.50	27.50	33.50	39.50	12.00	18.00	24.00	30.00	36.00	10.10/9.30	15.90/14.70	21.70/20.00	27.60/25.40	33.40/30.80
20.88	27.38	33.88	40.38	46.88	19.13	25.63	32.13	38.63	45.13	13.00	19.50	26.00	32.50	39.00	5.70/5.30	9.40/8.70	13.00/12.20	16.70/15.60	20.30/19.00
19.75	25.75	32.25	38.75	45.25	18.25	24.75	31.25	37.75	44.25	13.00	19.50	26.00	32.50	39.00	6.80/6.20	11.00/10.10	15.20/13.90	19.30/17.80	23.50/21.60
18.63	25.13	31.63	38.13	44.63	17.38	23.88	30.38	36.88	43.38	13.00	19.50	26.00	32.50	39.00	8.50/7.80	13.50/12.50	18.60/17.10	23.60/21.70	28.70/26.40
23.00	30.00	37.00	44.00	51.00	21.00	28.00	35.00	42.00	49.00	14.00	21.00	28.00	35.00	42.00	5.30/5.00	8.70/8.20	12.10/11.40	15.60/14.60	19.00/17.90
20.75	27.75	34.75	41.75	48.75	19.25	26.25	33.25	40.25	47.25	14.00	21.00	28.00	35.00	42.00	7.50/6.90	12.00/11.10	16.50/15.30	21.00/19.40	25.50/23.60
19.63	26.63	33.63	40.63	47.63	18.38	25.38	32.38	39.38	46.38	14.00	21.00	28.00	35.00	42.00	9.30/8.60	14.70/13.60	20.20/18.60	25.60/23.60	31.00/28.60
18.50	25.50	32.50	39.50	46.50	17.50	24.50	31.50	38.50	45.50	14.00	21.00	28.00	35.00	42.00	12.10/11.10	18.90/17.40	25.70/23.70	32.50/30.00	39.30/36.20
24.00	31.50	39.00	46.50	54.00	22.00	29.50	37.00	44.50	52.00	15.00	22.50	30.00	37.50	45.00	5.80/5.40	9.50/8.80	13.10/12.30	16.80/15.70	20.50/19.20
21.75	29.25	36.75	44.25	51.75	20.25	27.75	35.25	42.75	50.25	15.00	22.50	30.00	37.50	45.00	8.10/7.50	12.90/11.90	17.80/16.40	22.60/20.80	27.50/25.30
25.00	33.00	41.00	49.00	57.00	23.00	31.00	39.00	47.00	55.00	16.00	24.00	32.00	40.00	48.00	6.30/5.90	10.20/9.50	14.20/13.20	18.10/16.90	22.00/20.50
22.75	30.75	38.75	46.75	54.75	21.25	29.25	37.25	45.25	53.25	16.00	24.00	32.00	40.00	48.00	8.80/8.00	13.90/12.80	19.10/17.50	24.30/22.30	29.40/27.00
29.25	38.25	47.25	56.25	65.25	26.75	35.75	44.75	53.75	62.75	18.00	27.00	36.00	45.00	54.00	5.50/5.20	9.00/8.60	12.50/11.90	16.10/15.30	19.60/18.60
27.00	36.00	45.00	54.00	63.00	25.00	34.00	43.00	52.00	61.00	18.00	27.00	36.00	45.00	54.00	7.10/6.70	11.50/10.90	15.80/15.00	20.20/19.10	24.50/23.20
24.75	33.75	42.75	51.75	60.75	23.25	32.25	41.25	50.25	59.25	18.00	27.00	36.00	45.00	54.00	10.10/9.30	15.90/14.60	21.70/20.00	27.60/25.40	33.40/30.70
31.25	41.25	51.25	61.25	71.25	28.75	38.75	48.75	58.75	68.75	20.00	30.00	40.00	50.00	60.00	6.30/5.90	10.20/9.60	14.20/13.30	18.10/16.90	22.00/20.60
29.00	39.00	49.00	59.00	69.00	27.00	37.00	47.00	57.00	67.00	20.00	30.00	40.00	50.00	60.00	8.10/7.70	12.90/12.20	17.80/16.80	22.60/21.40	27.50/25.90
26.75	36.75	46.75	56.75	66.75	25.25	35.25	45.25	55.25	65.25	20.00	30.00	40.00	50.00	60.00	11.40/10.50	17.90/16.40	24.40/22.40	30.90/28.30	37.40/34.30
33.25	44.25	55.25	66.25	77.25	30.75	41.75	52.75	63.75	74.75	22.00	33.00	44.00	55.00	66.00	7.10/6.50	11.40/10.50	15.80/14.50	20.10/18.50	24.50/22.50
31.00	42.00	53.00	64.00	75.00	29.00	40.00	51.00	62.00	73.00	22.00	33.00	44.00	55.00	66.00	9.10/8.50	14.40/13.40	19.80/18.40	25.10/23.40	30.40/28.40
28.75	39.75	50.75	61.75	72.75	27.25	38.25	49.25	60.25	71.25	22.00	33.00	44.00	55.00	66.00	12.70/11.60	19.90/18.10	27.00/24.60	34.20/31.10	41.30/37.60
37.50	49.50	61.50	73.50	85.50	34.50	46.50	58.50	70.50	82.50	24.00	36.00	48.00	60.00	72.00	6.30/5.90	10.20/9.70	14.20/13.40	18.10/17.10	22.00/20.90
33.00	45.00	57.00	69.00	81.00	31.00	43.00	55.00	67.00	79.00	24.00	36.00	48.00	60.00	72.00	10.10/9.20	15.90/14.60	21.70/19.90	27.60/25.30	33.40/30.60
30.75	42.75	54.75	66.75	78.75	29.25	41.25	53.25	65.25	77.25	24.00	36.00	48.00	60.00	72.00	14.00/12.90	21.80/20.10	29.70/27.30	37.50/34.50	45.30/41.70
32.75	45.75	58.75	71.75	84.75	31.25	44.25	57.25	70.25	83.25	26.00	39.00	52.00	65.00	78.00	15.40/14.20	23.80/22.00	32.30/29.80	40.80/37.60	49.20/45.40
40.50	54.00	67.50	81.00	94.50	37.50	51.00	64.50	78.00	91.50	27.00	40.50	54.00	67.50	81.00	7.30/6.80	11.70/11.00	16.20/15.20	20.60/19.30	25.10/23

UNF / UNC	
A	Ø de taladrado o interior de rosca previa.
B	Ø mayor de rosca previa (Mínima).
C	Ø de flancos de rosca previa.
D	Ø de flancos de inserto instalado.
E	Ø interior del inserto instalado (Mínimo).
FC	Ø exterior del inserto en estado libre.
S	Profundidad del taladrado (Mínima).
T	Profundidad "útil" de roscado (Mínima).
Q	Rosca "útil" del inserto.
NC	Número de filetes o hilos

UNF / UNC	
A	Ø de perçage ou intérieur de l'avant-trou
B	Ø supérieur de l'avant-trou
C	Ø de flanc de l'avant-trou
D	Ø de flanc du filet rapporté posé
E	Ø intérieur du filet rapporté posé (mini.)
FC	Ø extérieur du filet rapporté à l'état libre
S	Profondeur de perçage (mini.)
T	Profondeur "utile" du taraudage (mini.)
Q	Filetage "utile" du filet rapporté
NC	Nombre de filets



IMPORTANTE: El éxito o fracaso de operaciones de taladrado y roscado dependen especialmente del material a trabajar. Las dimensiones detalladas son recomendaciones generales no específicas para un material concreto. Sin embargo, conviene que sean tenidas en cuenta ya que cumplen los requisitos marcados por los standards aplicables y los más reconocidos fabricantes. Para encontrar información relativa a diferentes standards, acuda a la Web www.bluemaster.es.

IMPORTANT: Le succès ou l'échec d'une opération de perçage et de taraudage dépend particulièrement du matériel à travailler. Les dimensions spécifiées sont des recommandations générales non spécifiques pour un matériel concret. Néanmoins, il convient de les prendre en compte étant donné qu'elles répondent aux exigences stipulées par les standards et les fabricants les plus reconnus. Pour retrouver l'information relative aux différents standards, rendez-vous sur la page web: www.bluemaster.es

Para obtener el mayor rendimiento posible del inserto, debe ser introducido 0.5 ó 1 vez el paso por debajo de agujero roscado. Ello significa que la longitud real que ofrece el inserto es la dimensión "Q" restando 0.5 ó 1 vez el paso. La dimensión "S" representa la profundidad del agujero, mientras que la "T" representa la longitud roscada útil, que puede variar en función de la longitud del cono de entrada del macho empleado.

Pour obtenir les meilleures performances du filet rapporté, celui-ci doit être posé à une profondeur de 1/2 pas à 1 pas en dessous de la surface du trou taraudé. Cela signifie que la longueur réelle qu'offre le filet rapporté est la dimension "Q" de laquelle on retire 0,5 ou 1 fois le pas. La dimension "S" représente la profondeur du trou tandis que le "T" représente la longueur taraudée utile, qui peut varier en fonction de la longueur du cône d'entrée du taraud utilisé.

MEDIDA/SIZE/DIMENSION	Broca / Drill/ Foret mm		A max/min	B	C (2B)	D (3B)	C (1B)	D (2B)	E	FC min/max
UNF										
Nº 2 - 64	2.30	3/32	0.0931 / 0.0894	0.106	0.0974 / 0.0962	0.0779 / 0.0759	0.0980 / 0.0962	0.0786 / 0.0759	0.0691	0.11 / 0.12
Nº 3 - 56	2.70	#37	0.1068 / 0.1029	0.122	0.1119 / 0.1106	0.0895 / 0.0874	0.1126 / 0.1106	0.0902 / 0.0874	0.0797	0.12 / 0.15
Nº 4 - 48	3.00	#31	0.1207 / 0.1165	0.139	0.1270 / 0.1255	0.1008 / 0.0985	0.1278 / 0.1255	0.1016 / 0.0985	0.0894	0.14 / 0.16
Nº 5 - 44	3.40	#30	0.1342 / 0.1299	0.155	0.1414 / 0.1398	0.1126 / 0.1102	0.1422 / 0.1398	0.1134 / 0.1102	0.1004	0.16 / 0.17
Nº 6 - 40	3.70	#26	0.1478 / 0.1434	0.171	0.1559 / 0.1542	0.1243 / 0.1218	0.1568 / 0.1542	0.1252 / 0.1218	0.111	0.17 / 0.19
Nº 8 - 36	4.40	11/64	0.1745 / 0.1700	0.200	0.1839 / 0.1820	0.1487 / 0.1460	0.1848 / 0.1820	0.1496 / 0.1460	0.134	0.20 / 0.22
Nº 10 - 32	5.10	13/64	0.2015 / 0.1968	0.231	0.2123 / 0.2103	0.1726 / 0.1697	0.2133 / 0.2103	0.1736 / 0.1697	0.156	0.23 / 0.26
1/4 X 28	6.60	17/64	0.2647 / 0.2577	0.296	0.2754 / 0.2732	0.2300 / 0.2268	0.2765 / 0.2732	0.2311 / 0.2268	0.2113	0.30 / 0.33
5/16 X 24	8.20	21/64	0.3289 / 0.3215	0.367	0.3421 / 0.3395	0.2890 / 0.2854	0.3433 / 0.3395	0.2902 / 0.2854	0.2674	0.37 / 0.40
3/8 X 24	9.80	25/64	0.3909 / 0.3840	0.429	0.4047 / 0.4020	0.3516 / 0.3479	0.4059 / 0.4020	0.3528 / 0.3479	0.3299	0.43 / 0.47
7/16 X 20	11.50	29/64	0.4561 / 0.4483	0.503	0.4731 / 0.4700	0.4091 / 0.4050	0.4744 / 0.4700	0.4104 / 0.4050	0.3834	0.51 / 0.55
1/2 X 20	13.00	33/64	0.5182 / 0.5108	0.565	0.5357 / 0.5325	0.4717 / 0.4675	0.5371 / 0.5325	0.4731 / 0.4675	0.4459	0.57 / 0.62
9/16 X 18	14.70	37/64	0.5824 / 0.5745	0.635	0.6020 / 0.5986	0.5308 / 0.5264	0.6035 / 0.5986	0.5323 / 0.5264	0.5024	0.64 / 0.69
5/8 X 18	16.30	41/64	0.6447 / 0.6370	0.697	0.6646 / 0.6611	0.5934 / 0.5889	0.6661 / 0.6611	0.5949 / 0.5889	0.5649	0.70 / 0.76
3/4 X 16	19.50	49/64	0.7716 / 0.7635	0.831	0.7945 / 0.7906	0.7143 / 0.7094	0.7961 / 0.7906	0.7159 / 0.7094	0.6823	0.84 / 0.90
7/8 X 14	22.50	57/64	0.8993 / 0.8905	0.968	0.9257 / 0.9214	0.8339 / 0.8286	0.9274 / 0.9214	0.8356 / 0.8286	0.7977	0.98 / 1.05
1 X 12	26.00	1.1/64	1.0280 / 1.0180	1.108	1.0589 / 1.0542	0.9516 / 0.9459	1.0608 / 1.0542	0.9535 / 0.9459	0.9098	1.12 / 1.20
1 X 14	26.00	1.1/64	1.0243 / 1.0155	1.093	1.0508 / 1.0464	0.9590 / 0.9536	1.0527 / 1.0464	0.9609 / 0.9536	0.9277	1.10 / 1.19
1-1/8 X 12	29.50	1.5/32	1.1543 / 1.1430	1.233	1.1841 / 1.1792	1.0768 / 1.0709	1.1860 / 1.1792	1.0787 / 1.0709	1.0348	1.25 / 1.33
1-1/4 X 12	32.50	1.9/32	1.2793 / 1.2680	1.358	1.3092 / 1.3042	1.2019 / 1.1950	1.3112 / 1.3042	1.2039 / 1.1959	1.1598	1.37 / 1.47
1-3/8 X 12	35.50	1.13/32	1.4043 / 1.3930	1.483	1.4343 / 1.4292	1.3270 / 1.3209	1.4364 / 1.4292	1.3291 / 1.3209	1.2848	1.50 / 1.61
1-1/2 X 12	38.50	1.17/32	1.5293 / 1.5180	1.608	1.5595 / 1.5542	1.4522 / 1.4459	1.5615 / 1.5542	1.4542 / 1.4459	1.4098	1.62 / 1.75
UNC										
Nº 2 - 56	2.40	#41	0.0941 / 0.0899	0.109	0.0989 / 0.0976	0.0765 / 0.0744	0.0996 / 0.0976	0.0772 / 0.0744	0.0667	0.11 / 0.12
Nº 3 - 48	2.70	#36	0.1080 / 0.1035	0.126	0.1139 / 0.1125	0.0877 / 0.0855	0.1147 / 0.1125	0.0885 / 0.0855	0.0764	0.12 / 0.14
Nº 4 - 40	3.00	#31	0.1224 / 0.1174	0.145	0.1298 / 0.1282	0.0982 / 0.0958	0.1307 / 0.1282	0.0991 / 0.0958	0.0849	0.14 / 0.16
Nº 5 - 40	3.40	#29	0.1354 / 0.1304	0.158	0.1429 / 0.1412	0.1113 / 0.1088	0.1437 / 0.1412	0.1121 / 0.1088	0.0979	0.16 / 0.17
Nº 6 - 32	3.70	#25	0.1503 / 0.1448	0.179	0.1601 / 0.1583	0.1204 / 0.1177	0.1611 / 0.1583	0.1214 / 0.1177	0.1040	0.18 / 0.19
Nº 8 - 32	4.40	11/64	0.1758 / 0.1708	0.205	0.1862 / 0.1843	0.1465 / 0.1437	0.1872 / 0.1843	0.1475 / 0.1437	0.1300	0.20 / 0.22
Nº 10 - 24	5.10	13/64	0.2051 / 0.1990	0.244	0.2193 / 0.2171	0.1661 / 0.1629	0.2204 / 0.2171	0.1672 / 0.1629	0.1450	0.24 / 0.26
Nº 12 - 24	5.70	15/64	0.2308 / 0.2250	0.270	0.2454 / 0.2431	0.1922 / 0.1889	0.2465 / 0.2431	0.1933 / 0.1889	0.1710	0.27 / 0.28
1/4 X 20	6.70	17/64	0.2703 / 0.2608	0.315	0.2851 / 0.2825	0.2211 / 0.2175	0.2863 / 0.2825	0.2223 / 0.2175	0.1959	0.31 / 0.33
5/16 X 18	8.30	21/64	0.3341 / 0.3245	0.385	0.3515 / 0.3486	0.2803 / 0.2764	0.3529 / 0.3486	0.2817 / 0.2764	0.2524	0.38 / 0.40
3/8 X 16	9.90	25/64	0.3985 / 0.3885	0.456	0.4189 / 0.4156	0.3387 / 0.3344	0.4203 / 0.4156	0.3401 / 0.3344	0.3073	0.45 / 0.47
7/16 X 14	11.60	29/64	0.4636 / 0.4530	0.530	0.4875 / 0.4839	0.3957 / 0.3911	0.4890 / 0.4839	0.3972 / 0.3911	0.3602	0.52 / 0.55
1/2 X 13	13.00	33/64	0.5275 / 0.5166	0.600	0.5537 / 0.5499	0.4548 / 0.4500	0.5554 / 0.5499	0.4565 / 0.4500	0.4167	0.59 / 0.62
9/16 X 12	15.00	19/32	0.5918 / 0.5805	0.671	0.6208 / 0.6167	0.5135 / 0.5084	0.6225 / 0.6167	0.5152 / 0.5084	0.4723	0.66 / 0.69
5/8 X 11	16.50	21/32	0.6565 / 0.6447	0.743	0.6885 / 0.6841	0.5714 / 0.5660	0.6903 / 0.6841	0.5732 / 0.5660	0.5266	0.74 / 0.77
3/4 X 10	19.80	25/32	0.7838 / 0.7716	0.880	0.8196 / 0.8149	0.6907 / 0.6850	0.8216 / 0.8149	0.6927 / 0.6850	0.6417	0.87 / 0.91
7/8 X 9	23.00	29/32	0.9124 / 0.8991	1.019	0.9522 / 0.9471	0.8089 / 0.8028	0.9543 / 0.9471	0.8110 / 0.8028	0.7547	1.01 / 1.05
1 X 8	26.20	1.1/32	1.0421 / 1.0271	1.162	1.0868 / 1.0812	0.9254 / 0.9188	1.0890 / 1.0812	0.9276 / 0.9188	0.8647	1.15 / 1.20
1-1/8 X 7	29.50	1.5/32	1.1709 / 1.1559	1.311	1.2239 / 1.2178	1.0393 / 1.0322	1.2262 / 1.2178	1.0416 / 1.0322	0.9704	1.30 / 1.36
1-1/4 X 7	32.50	1.9/32	1.2959 / 1.2809	1.436	1.3490 / 1.3428	1.1644 / 1.1572	1.3514 / 1.3428	1.1668 / 1.1572	1.0954	1.42 / 1.48
1-3/8 X 6	36.00	1.13/32	1.4311 / 1.4111	1.591	1.4900 / 1.4832	1.2745 / 1.2667	1.4926 / 1.4832	1.2771 / 1.2667	1.1946	1.58 / 1.64
1-1/2 X 6	39.50	1.35/64	1.5561 / 1.5361	1.716	1.6151 / 1.6082	1.3996 / 1.3917	1.6177 / 1.6082	1.4022 / 1.3917	1.3196	1.70 / 1.77

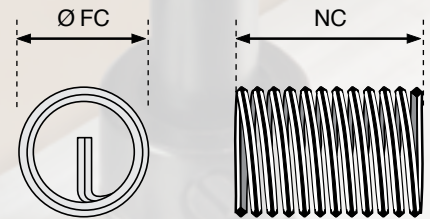
powercoil



powercoil
by CELESA

UNF / UNC	
A	Minor Diameter
B	Major Diameter
C	Pitch Diameter of Tapped Hole (Class 5H)
D	Pitch Diameter of Installed Insert (Class 4H)
E	Installed Insert Internal Diameter - min.
FC	Free Coil Diameter of Un-installed Insert

UNF / UNC	
S	Drilling Length - minimum
T	Tapping Length - minimum
Q	Nominal Length
NC	Number of Coils in Un-installed Insert counted 90° from tang



IMPORTANT The success of any drill and tapping operation is dependant upon many factors –type of material being cut, cutting speed, coolant, equipment being used – and it is not possible to give specific drill sizes for each material. Drill sizes shown are recommendations only and PowerCoil would strongly suggest that independent testing be performed for specific and critical applications.

When using wire thread inserts it is important that the drilling and tapping diameters and lengths listed below are adhered to.

The figures outlined in these tables encompass effective free coil tolerances for most globally recognized standards and manufacturers, including those of reduced diameter wire thread inserts.

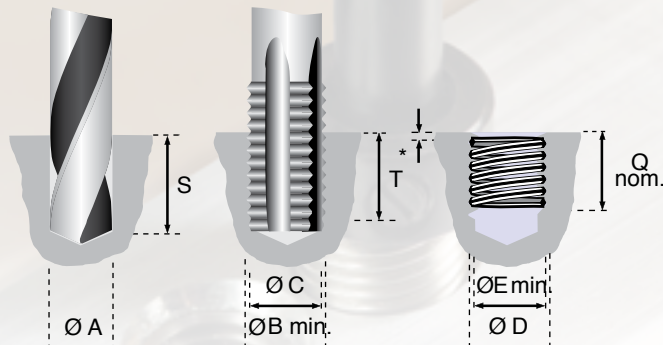
PowerCoil wire thread inserts can be manufactured to different standards upon request. Technical data on these standards can be obtained from our website – www.bluemaster.es

S					T					Q					NC max/min				
1.0D	1.5D	2.0D	2.5D	3.0D	1.0D	1.5D	2.0D	2.5D	3.0D	1.0D	1.5D	2.0D	2.5D	3.0D	1.0D	1.5D	2.0D	2.5D	3.0D
0.156	0.199	0.242	0.285	0.328	0.141	0.184	0.227	0.270	0.313	0.086	0.129	0.172	0.215	0.258	3.70 / 3.40	6.30 / 5.80	8.90 / 8.20	11.60 / 10.50	14.20 / 12.90
0.179	0.229	0.278	0.328	0.377	0.161	0.210	0.260	0.310	0.359	0.099	0.148	0.198	0.247	0.297	3.70 / 3.10	6.40 / 5.20	9.00 / 7.40	11.60 / 9.60	14.30 / 11.80
0.206	0.262	0.318	0.374	0.430	0.185	0.241	0.297	0.353	0.409	0.112	0.168	0.224	0.280	0.336	3.70 / 3.20	6.40 / 5.40	9.00 / 7.60	11.60 / 9.80	14.20 / 12.10
0.227	0.290	0.352	0.414	0.477	0.204	0.267	0.329	0.391	0.454	0.125	0.187	0.250	0.312	0.375	3.70 / 3.40	6.30 / 5.80	8.90 / 8.20	11.50 / 10.60	14.20 / 13.00
0.250	0.319	0.388	0.457	0.526	0.225	0.294	0.363	0.432	0.501	0.138	0.207	0.276	0.345	0.414	3.70 / 3.20	6.30 / 5.50	9.00 / 7.80	11.60 / 10.10	14.20 / 12.40
0.289	0.371	0.453	0.535	0.617	0.261	0.343	0.425	0.507	0.589	0.164	0.246	0.328	0.410	0.492	4.10 / 3.60	6.90 / 6.10	9.70 / 8.60	12.50 / 11.10	15.30 / 13.60
0.331	0.426	0.521	0.616	0.711	0.299	0.394	0.489	0.584	0.679	0.190	0.285	0.380	0.475	0.570	4.30 / 3.80	7.20 / 6.40	10.10 / 9.00	13.00 / 11.60	15.90 / 14.20
0.411	0.536	0.661	0.786	0.911	0.375	0.500	0.625	0.750	0.875	0.250	0.375	0.500	0.625	0.750	5.20 / 4.70	8.50 / 7.70	11.90 / 10.80	15.20 / 13.80	18.60 / 16.90
0.500	0.656	0.812	0.969	1.125	0.458	0.614	0.771	0.927	1.083	0.312	0.469	0.625	0.781	0.937	5.60 / 5.10	9.20 / 8.50	12.80 / 11.70	16.40 / 15.00	20.00 / 18.30
0.562	0.750	0.937	1.124	1.312	0.521	0.708	0.896	1.083	1.271	0.375	0.562	0.750	0.937	1.125	7.10 / 6.50	11.40 / 10.50	15.80 / 14.50	20.10 / 18.50	24.50 / 22.50
0.662	0.881	1.100	1.319	1.537	0.612	0.831	1.050	1.269	1.487	0.437	0.656	0.875	1.094	1.312	6.90 / 6.30	11.10 / 10.20	15.30 / 14.00	19.50 / 17.90	23.70 / 21.70
0.725	0.975	1.225	1.475	1.725	0.675	0.925	1.175	1.425	1.675	0.500	0.750	1.000	1.250	1.500	8.10 / 7.40	12.90 / 11.90	17.80 / 16.30	22.60 / 20.80	27.50 / 25.20
0.811	1.093	1.374	1.655	1.936	0.756	1.038	1.319	1.600	1.881	0.562	0.844	1.125	1.406	1.687	8.30 / 7.60	13.30 / 12.20	18.20 / 16.80	23.10 / 21.30	28.10 / 25.90
0.874	1.187	1.500	1.812	2.124	0.819	1.132	1.444	1.757	2.069	0.625	0.937	1.250	1.562	1.875	9.40 / 8.70	14.90 / 13.80	20.50 / 18.90	26.00 / 24.00	31.50 / 29.10
1.031	1.406	1.781	2.156	2.531	0.969	1.344	1.719	2.094	2.469	0.750	1.125	1.500	1.875	2.250	10.10 / 9.30	15.90 / 14.70	21.70 / 20.10	27.60 / 25.50	33.40 / 30.90
1.196	1.634	2.071	2.509	2.946	1.125	1.562	2.000	2.437	2.875	0.875	1.312	1.750	2.187	2.625	10.30 / 9.60	16.30 / 15.10	22.20 / 20.60	28.20 / 26.10	34.20 / 31.60
1.375	1.875	2.375	2.875	3.375	1.292	1.792	2.292	2.792	3.292	1.000	1.500	2.000	2.500	3.000	10.10 / 9.40	16.00 / 14.80	21.80 / 20.30	27.70 / 25.70	33.50 / 31.10
1.32	1.82	2.32	2.82	3.32	1.25	1.75	2.25	2.75	3.25	1.000	1.500	2.000	2.500	3.000	12.10 / 11.20	18.90 / 17.50	25.70 / 23.80	32.50 / 30.10	39.40 / 36.40
1.500	2.062	2.625	3.187	3.750	1.417	1.979	2.542	3.104	3.667	1.125	1.687	2.250	2.812	3.375	11.60 / 10.80	18.20 / 16.90	24.80 / 23.00	31.40 / 29.20	38.00 / 35.30
1.625	2.250	2.875	3.500	4.125	1.542	2.167	2.792	3.417	4.042	1.250	1.875	2.500	3.125	3.750	13.10 / 12.20	20.40 / 19.00	27.80 / 25.80	35.10 / 32.70	42.50 / 39.50
1.750	2.438	3.125	3.813	4.500	1.667	2.354	3.042	3.729	4.417	1.375	2.062	2.750	3.437	4.125	14.60 / 13.50	22.70 / 21.00	30.80 / 28.50	38.80 / 36.00	46.90 / 43.50
1.875	2.625	3.375	4.125	4.875	1.792	2.542	3.292	4.042	4.792	1.500	2.250	3.000	3.750	4.500	16.10 / 14.90	24.90 / 23.10	33.70 / 31.30	42.60 / 39.50	51.40 / 47.70
0.166	0.209	0.252	0.295	0.338	0.148	0.191	0.234	0.277	0.320	0.086	0.129	0.172	0.215	0.258	3.10 / 2.80	5.40 / 4.80	7.80 / 6.90	10.10 / 9.00	12.50 / 11.10
0.193	0.242	0.292	0.341	0.391	0.172	0.221	0.271	0.320	0.370	0.099	0.148	0.198	0.247	0.297	3.20 / 2.80	5.50 / 4.90	7.90 / 7.00	10.30 / 9.00	12.70 / 11.20
0.224	0.280	0.336	0.392	0.448	0.199	0.255	0.311	0.367	0.423	0.112	0.168	0.224	0.280	0.336	2.80 / 2.40	4.90 / 4.30	7.10 / 6.20	9.20 / 8.10	11.40 / 10.00
0.237	0.300	0.362	0.425	0.487	0.212	0.275	0.337	0.400	0.462	0.125	0.187	0.250	0.312	0.375	3.30 / 2.90	5.70 / 5.00	8.10 / 7.20	10.50 / 9.30	13.00 / 11.50
0.279	0.348	0.417	0.486	0.555	0.247	0.316	0.385	0.454	0.523	0.138	0.207	0.276	0.345	0.414	2.70 / 2.40	4.80 / 4.30	7.00 / 6.20	9.10 / 8.20	11.20 / 10.10
0.305	0.387	0.469	0.551	0.633	0.273	0.355	0.437	0.519	0.601	0.164	0.246	0.328	0.410	0.492	3.50 / 3.20	6.10 / 5.50	8.60 / 7.80	11.20 / 10.10	13.70 / 12.40
0.377	0.472	0.567	0.662	0.757	0.336	0.431	0.526	0.621	0.716	0.190	0.285	0.380	0.475	0.570	2.80 / 2.60	5.00 / 4.60	7.20 / 6.70	9.40 / 8.70	11.60 / 10.70
0.403	0.511	0.619	0.727	0.835	0.362	0.470	0.578	0.686	0.794	0.216	0.324	0.432	0.540	0.648	3.50 / 3.20	6.00 / 5.60	8.50 / 7.90	11.00 / 10.30	13.50 / 12.60
0.475	0.600	0.725	0.850	0.975	0.425	0.550	0.675	0.800	0.925	0.250	0.375	0.500	0.625	0.750	3.30 / 3.10	5.70 / 5.30	8.10 / 7.60	10.50 / 9.90	13.00 / 12.10
0.562	0.718	0.875	1.031	1.187	0.507	0.663	0.819	0.975	1.132	0.312	0.469	0.625	0.781	0.937	3.90 / 3.70	6.70 / 6.30	9.50 / 8.90	12.20 / 11.50	15.00 / 14.10
0.656	0.844	1.031	1.219	1.406	0.594	0.781	0.969	1.156	1.344	0.375	0.562	0.750	0.937	1.125	4.30 / 4.10	7.20 / 6.80	10.10 / 9.60	13.10 / 12.40	16.00 / 15.20
0.758	0.977	1.196	1.415	1.633	0.687	0.906	1.125	1.344	1.562	0.437	0.656	0.875	1.094	1.312	4.40 / 4.10	7.40 / 7.00	10.40 / 9.80	13.40 / 12.60	16.30 / 15.50
0.846	1.096	1.346	1.596	1.846	0.769	1.019	1.269	1.519	1.769	0.500	0.750	1.000	1.250	1.500	4.80 / 4.50	8.00 / 7.50	11.10 / 10.60	14.30 / 13.60	17.50 / 16.60
0.937	1.219	1.500	1.781	2.062	0.854	1.135	1.417	1.698	1.979	0.562	0.844	1.125	1.406	1.687	5.00 / 4.80	8.40 / 7.90	11.70 / 11.10	15.00 / 14.20	18.30 / 17.40
1.034	1.347	1.659	1.972	2.284	0.943	1.256	1.568	1.881	2.193	0.625	0.937	1.250	1.562	1.875	5.10 / 4.90	8.50 / 8.10	11.90 / 11.30	15.20 / 14.50	18.60 / 17.70
1.200	1.575	1.950	2.325	2.700	1.100	1.475	1.850	2.225	2.600	0.750	1.125	1.500	1.875	2.250	5.80 / 5.50	9.50 / 9.00	13.10 / 12.60	16.80 / 16.10	20.50 / 19.60
1.375	1.812	2.250	2.687	3.125	1.264	1.701	2.139	2.576	3.014	0.875	1.312	1.750	2.187	2.625	6.20 / 5.90	10.00 / 9.60	13.90 / 13.30	17.80 / 17.00	21.70 / 20.70
1.562	2.062	2.562	3.062	3.562	1.437	1.937	2.437	2.937	3.437	1.000	1.500	2.000	2.500	3.000	6.30 / 6.00	10.20 / 9.80	14.20 / 13.60	18.10 / 17.30	22.00 / 21.10
1.768	2.330	2.893	3.455	4.018	1.625	2.187	2.750	3.312	3.875	1.125	1.687	2.250	2.812	3.375	6.20 / 5.90	10.10 / 9.60	14.00 / 13.30	17.90 / 17.00	21.80 / 20.70
1.893	2.518	3.143	3.768	4.393	1.750	2.375	3.000	3.625	4.250	1.250	1.875	2.500	3.125	3.750	7.10 / 6.70	11.40 / 10.90	15.80 / 15.00	20.10 / 19.20	24.40 / 23.30
2.125	2.812	3.500	4.187	4.875	1.958	2.646	3.333	4.021	4.708	1.375	2.062	2.750	3.437	4.125	6.50 / 6.20	10.60 / 10.10	14.60 / 14.00	18.70 / 17.80	22.70 / 21.70
2.250	3.000	3.750	4.500	5.250	2.083	2.833	3.583	4.333	5.083	1.500	2.250	3.000	3.750	4.500	7.30 / 6.90	11.70 / 11.20	16.10 / 15.40	20.60 / 19.60	25.00 / 23.90

Optimum Thread performance with Wire Thread Inserts is achieved when the inserts are installed 1/2 to 1 pitch below the surface of the Tapped Hole. This means that the actual length of an installed insert is equal to dimension Q less 1/2 to 1 pitch. Dimensions S and T allow for tap end clearance of intermediate taps. When using Bottoming and Spiral Flute Taps these dimensions maybe reduced by an amount equal to 2 thread pitches. Any counterbore depths must be added to these dimensions.

BSF / BSW / BSP	
A	Ø de taladrado o interior de rosca previa.
B	Ø mayor de rosca previa (Mínima).
C	Ø de flancos de rosca previa.
D	Ø de flancos de inserto instalado.
E	Ø interior del inserto instalado (Mínimo).
FC	Ø exterior del inserto en estado libre.
S	Profundidad del taladrado (Mínima).
T	Profundidad "útil" de roscado (Mínima).
Q	Rosca "útil" del inserto.
NC	Número de filetes o hilos

BSF / BSW / BSP	
A	Ø de perçage ou intérieur de l'avant-trou
B	Ø supérieur de l'avant-trou
C	Ø de flanc de l'avant-trou
D	Ø de flanc du filet rapporté posé
E	Ø intérieur du filet rapporté posé (mini.)
FC	Ø extérieur du filet rapporté à l'état libre
S	Profondeur de perçage (mini.)
T	Profondeur "utile" du taraudage (mini.)
Q	Filetage "utile" du filet rapporté
NC	Nombre de filets



IMPORTANTE: El éxito o fracaso de operaciones de taladrado y roscado dependen especialmente del material a trabajar. Las dimensiones detalladas son recomendaciones generales no específicas para un material concreto. Sin embargo, conviene que sean tenidas en cuenta ya que cumplen los requisitos marcados por los standards aplicables y los más reconocidos fabricantes. Para encontrar información relativa a diferentes standards, acuda a la Web www.bluemaster.es.

IMPORTANT: Le succès ou l'échec d'une opération de perçage et de taraudage dépend particulièrement du matériel à travailler. Les dimensions spécifiées sont des recommandations générales non spécifiques pour un matériel concret. Néanmoins, il convient de les prendre en compte étant donné qu'elles répondent aux exigences stipulées par les standards et les fabricants les plus reconnus. Pour retrouver l'information relative aux différents standards, rendez-vous sur la page web: www.bluemaster.es

Para obtener el mayor rendimiento posible del inserto, debe ser introducido 0.5 ó 1 vez el paso por debajo de agujero roscado. Ello significa que la longitud real que ofrece el inserto es la dimensión "Q" restando 0.5 ó 1 vez el paso. La dimensión "S" representa la profundidad del agujero, mientras que la "T" representa la longitud roscada útil, que puede variar en función de la longitud del cono de entrada del macho empleado.

MEDIDA/SIZE/DIMENSION	Broca / Drill/ Foret mm		A max/min	B	C (Close)	D (Close)	C (Medium)	D (Medium)	E	FC min/max
BSF										
3/16 X 32	5.00	13/64	0.198 / 0.192	0.225	0.2087 / 0.2075	0.1697 / 0.1675	0.2098 / 0.2075	0.1708 / 0.1675	0.1475	0.23 / 0.25
1/4 X 26	6.60	17/64	0.264 / 0.257	0.296	0.2762 / 0.2747	0.2279 / 0.2254	0.2774 / 0.2747	0.2291 / 0.2254	0.2008	0.30 / 0.33
5/16 X 22	8.30	21/64	0.330 / 0.323	0.366	0.3433 / 0.3416	0.2861 / 0.2834	0.3447 / 0.3416	0.2875 / 0.2834	0.2543	0.37 / 0.40
3/8 X 20	9.80	25/64	0.392 / 0.385	0.434	0.4089 / 0.4070	0.3459 / 0.3430	0.4104 / 0.4070	0.3474 / 0.3430	0.3110	0.44 / 0.48
7/16 X 18	11.60	29/64	0.458 / 0.450	0.503	0.4751 / 0.4730	0.4050 / 0.4019	0.4767 / 0.4730	0.4066 / 0.4019	0.3663	0.51 / 0.56
1/2 X 16	13.20	33/64	0.522 / 0.513	0.574	0.5423 / 0.5400	0.4633 / 0.4600	0.5440 / 0.5400	0.4650 / 0.4600	0.4200	0.58 / 0.63
9/16 X 16	14.80	37/64	0.586 / 0.577	0.636	0.6049 / 0.6025	0.5259 / 0.5225	0.6067 / 0.6025	0.5277 / 0.5225	0.4825	0.64 / 0.70
5/8 X 14	16.30	41/64	0.649 / 0.640	0.709	0.6734 / 0.6708	0.5829 / 0.5793	0.6752 / 0.6708	0.5847 / 0.5793	0.5336	0.72 / 0.77
3/4 X 12	19.50	49/64	0.775 / 0.765	0.848	0.8062 / 0.8033	0.7005 / 0.6966	0.8082 / 0.8033	0.7025 / 0.6966	0.6432	0.86 / 0.92
7/8 X 11	22.80	57/64	0.900 / 0.890	0.982	0.9364 / 0.9332	0.8210 / 0.8168	0.9384 / 0.9332	0.8230 / 0.8168	0.7586	0.99 / 1.07
1 X 10	26.20	1.1/32	1.044 / 1.031	1.117	1.0675 / 1.0641	0.9404 / 0.9360	1.0697 / 1.0641	0.9426 / 0.9360	0.8720	1.13 / 1.22
1-1/8 X 9	29.50	1.5/32	1.170 / 1.156	1.255	1.1998 / 1.1962	1.0585 / 1.0539	1.2021 / 1.1962	1.0608 / 1.0539	0.9828	1.27 / 1.37
1-1/4 X 9	32.50	1.9/32	1.295 / 1.281	1.380	1.3250 / 1.3212	1.1837 / 1.1789	1.3274 / 1.3212	1.1861 / 1.1789	1.1078	1.39 / 1.50
1-3/8 X 8	36.00	1.13/32	1.420 / 1.406	1.521	1.4591 / 1.4551	1.3000 / 1.2950	1.4616 / 1.4551	1.3025 / 1.2950	1.2150	1.54 / 1.66
1-1/2 X 8	39.00	1.17/32	1.545 / 1.531	1.646	1.5843 / 1.5801	1.4252 / 1.4200	1.5868 / 1.5801	1.4277 / 1.4200	1.3400	1.66 / 1.81

Pour obtenir les meilleures performances du filet rapporté, celui-ci doit être posé à une profondeur de 1/2 pas à 1 pas en dessous de la surface du trou taraudé. Cela signifie que la longueur réelle qu'offre le filet rapporté est la dimension "Q" de laquelle on retire 0,5 ou 1 fois le pas. La dimension "S" représente la profondeur du trou tandis que le "T" représente la longueur taraudée utile, qui peut varier en fonction de la longueur du cône d'entrée du taraud utilisé.

BSW										
1/8 X 40	3.40	#30	0.135 / 0.129	0.155	0.1420 / 0.1410	0.1109 / 0.1090	0.1430 / 0.1410	0.1119 / 0.1090	0.0930	0.15 / 0.17
3/16 X 24	5.00	13/64	0.202 / 0.196	0.237	0.2154 / 0.2142	0.1631 / 0.1608	0.2166 / 0.2142	0.1643 / 0.1608	0.1341	0.23 / 0.26
1/4 X 20	6.70	17/64	0.267 / 0.261	0.309	0.2836 / 0.2820	0.2206 / 0.2180	0.2849 / 0.2820	0.2219 / 0.2180	0.1860	0.31 / 0.33
5/16 X 18	8.30	21/64	0.334 / 0.328	0.378	0.3498 / 0.3480	0.2797 / 0.2769	0.3512 / 0.3480	0.2811 / 0.2769	0.2413	0.37 / 0.40
3/8 X 16	10.00	25/64	0.398 / 0.390	0.448	0.4170 / 0.4150	0.3380 / 0.3350	0.4185 / 0.4150	0.3395 / 0.3350	0.2950	0.44 / 0.47
7/16 X 14	11.60	29/64	0.463 / 0.453	0.521	0.4855 / 0.4833	0.3950 / 0.3918	0.4871 / 0.4833	0.3966 / 0.3918	0.3461	0.52 / 0.55
1/2 X 12	13.00	33/64	0.525 / 0.515	0.597	0.5557 / 0.5533	0.4500 / 0.4466	0.5575 / 0.5533	0.4518 / 0.4466	0.3932	0.59 / 0.63
9/16 X 12	14.80	37/64	0.588 / 0.578	0.660	0.6184 / 0.6158	0.5127 / 0.5091	0.6201 / 0.6158	0.5144 / 0.5091	0.4557	0.65 / 0.69
5/8 X 11	16.70	21/32	0.663 / 0.653	0.731	0.6859 / 0.6832	0.5705 / 0.5668	0.6878 / 0.6832	0.5724 / 0.5668	0.5086	0.72 / 0.77
3/4 X 10	20.00	25/32	0.791 / 0.781	0.867	0.8171 / 0.8141	0.6900 / 0.6860	0.8191 / 0.8141	0.6920 / 0.6860	0.6220	0.86 / 0.90
7/8 X 9	23.20	29/32	0.916 / 0.906	1.005	0.9495 / 0.9462	0.8082 / 0.8039	0.9516 / 0.9462	0.8103 / 0.8039	0.7328	0.99 / 1.05
1 X 8	26.50	1.1/32	1.044 / 1.031	1.146	1.0836 / 1.0801	0.9245 / 0.9200	1.0859 / 1.0801	0.9268 / 0.9200	0.8400	1.13 / 1.20
1-1/8 X 7	30.00	1.11/64	1.186 / 1.171	1.291	1.2203 / 1.2165	1.0383 / 1.0335	1.2227 / 1.2165	1.0407 / 1.0335	0.9420	1.28 / 1.35
1-1/4 X 7	33.00	1.19/64	1.311 / 1.296	1.416	1.3454 / 1.3415	1.1634 / 1.1585	1.3479 / 1.3415	1.1659 / 1.1585	1.0670	1.40 / 1.48
1-1/2 X 6	39.50	1.35/64	1.571 / 1.546	1.694	1.6110 / 1.6067	1.3986 / 1.3933	1.6137 / 1.6067	1.4013 / 1.3933	1.2866	1.68 / 1.78
BSP										
1/8 X 28	10.00	25/64	0.400 / 0.390	0.426	0.4076 / 0.4058	0.3629 / 0.3601	0.4090 / 0.4058	0.3643 / 0.3601	0.3372	0.43 / 0.47
1/4 X 19	13.6	17/32	0.540 / 0.530	0.580	0.5539 / 0.5517	0.4875 / 0.4843	0.5556 / 0.5517	0.4892 / 0.4843	0.4506	0.59 / 0.64
3/8 X 19	17.1	43/64	0.680 / 0.670	0.718	0.6920 / 0.6897	0.6256 / 0.6223	0.6937 / 0.6897	0.6273 / 0.6223	0.5886	0.73 / 0.79
1/2 X 14	21.5	27/32	0.850 / 0.840	0.909	0.8735 / 0.8708	0.7830 / 0.7793	0.8754 / 0.8708	0.7849 / 0.7793	0.7336	0.92 / 0.99
5/8 X 14	23.4	59/64	0.927 / 0.915	0.986	0.9506 / 0.9478	0.8601 / 0.8563	0.9524 / 0.9478	0.8619 / 0.8563	0.8106	1.00 / 1.08
3/4 X 14	27	1.1/16	1.066 / 1.053	1.126	1.0898 / 1.0868	0.9993 / 0.9953	1.0918 / 1.0868	1.0013 / 0.9953	0.9496	1.14 / 1.23
7/8 X 14	30.5	1.13/64	1.213 / 1.200	1.274	1.2378 / 1.2348	1.1473 / 1.1433	1.2399 / 1.2348	1.1494 / 1.1433	1.0976	1.29 / 1.39
1 X 11	33.7	1.21/64	1.335 / 1.320	1.416	1.3705 / 1.3673	1.2551 / 1.2508	1.3727 / 1.3673	1.2573 / 1.2508	1.1926	1.43 / 1.54
1-1/4 X 11	42.5	1.43/64	1.680 / 1.665	1.757	1.7118 / 1.7083	1.5964 / 1.5918	1.7141 / 1.7083	1.5987 / 1.5918	1.5336	1.77 / 1.91
1-1/2 X 11	48.5	1.29/32	1.921 / 1.906	1.989	1.9440 / 1.9403	1.8286 / 1.8238	1.9464 / 1.9403	1.8310 / 1.8238	1.7656	2.01 / 2.16

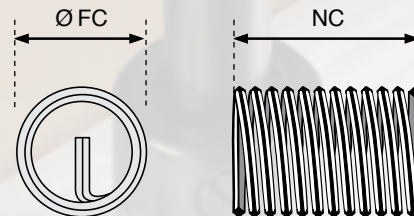
powercoil



powercoil
by GLESA

BSF / BSW / BSP	
A	Minor Diameter
B	Major Diameter
C	Pitch Diameter of Tapped Hole (Class 5H)
D	Pitch Diameter of Installed Insert (Class 4H)
E	Installed Insert Internal Diameter - min.
FC	Free Coil Diameter of Un-installed Insert

BSF / BSW / BSP	
S	Drilling Length - minimum
T	Tapping Length - minimum
Q	Nominal Length
NC	Number of Coils in Un-installed Insert counted 90° from tang



IMPORTANT The success of any drill and tapping operation is dependant upon many factors –type of material being cut, cutting speed, coolant, equipment being used – and it is not possible to give specific drill sizes for each material. Drill sizes shown are recommendations only and PowerCoil would strongly suggest that independent testing be performed for specific and critical applications.

When using wire thread inserts it is important that the drilling and tapping diameters and lengths listed below are adhered to.

The figures outlined in these tables encompass effective free coil tolerances for most globally recognized standards and manufacturers, including those of reduced diameter wire thread inserts.

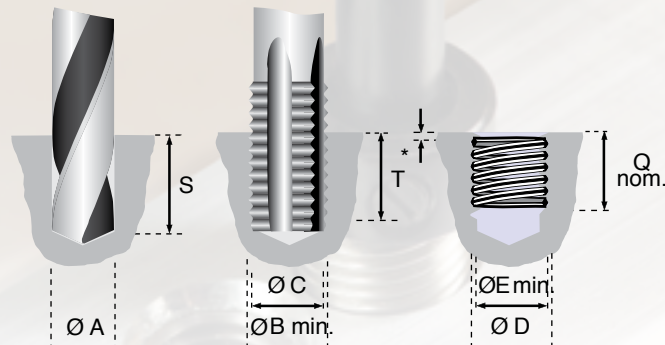
PowerCoil wire thread inserts can be manufactured to different standards upon request. Technical data on these standards can be obtained from our website – www.bluemaster.es

S					T					Q					NC max/min				
1.0D	1.5D	2.0D	2.5D	3.0D	1.0D	1.5D	2.0D	2.5D	3.0D	1.0D	1.5D	2.0D	2.5D	3.0D	1.0D	1.5D	2.0D	2.5D	3.0D
0.328	0.422	0.515	0.609	0.703	0.297	0.390	0.484	0.578	0.672	0.187	0.281	0.375	0.469	0.562	4.30 / 3.90	7.20 / 6.50	10.20 / 9.20	13.10 / 11.90	16.00 / 14.50
0.423	0.548	0.673	0.798	0.923	0.385	0.510	0.635	0.760	0.885	0.250	0.375	0.500	0.625	0.750	4.80 / 4.30	7.90 / 7.10	11.20 / 9.90	14.40 / 12.70	17.50 / 15.60
0.517	0.673	0.829	0.986	1.142	0.472	0.628	0.784	0.940	1.096	0.312	0.469	0.625	0.781	0.937	5.20 / 4.70	8.50 / 7.70	11.90 / 10.70	15.30 / 13.80	18.70 / 16.80
0.600	0.787	0.975	1.162	1.350	0.550	0.737	0.925	1.112	1.300	0.375	0.562	0.750	0.937	1.125	5.80 / 5.30	9.40 / 8.60	13.20 / 12.00	16.90 / 15.30	20.50 / 18.70
0.687	0.906	1.124	1.343	1.562	0.632	0.851	1.069	1.288	1.507	0.437	0.656	0.875	1.094	1.312	6.20 / 5.60	10.00 / 9.10	13.90 / 12.60	17.80 / 16.10	21.60 / 19.60
0.781	1.031	1.281	1.531	1.781	0.719	0.969	1.219	1.469	1.719	0.500	0.750	1.000	1.250	1.500	6.30 / 5.70	10.20 / 9.30	14.20 / 12.90	18.10 / 16.50	22.00 / 20.00
0.844	1.125	1.406	1.687	1.969	0.781	1.062	1.344	1.625	1.906	0.562	0.844	1.125	1.406	1.687	7.30 / 6.60	11.70 / 10.60	16.10 / 14.70	20.60 / 18.70	25.00 / 22.70
0.946	1.259	1.571	1.884	2.196	0.875	1.187	1.500	1.812	2.125	0.625	0.937	1.250	1.562	1.875	7.10 / 6.50	11.30 / 10.40	15.70 / 14.30	20.00 / 18.30	24.30 / 22.20
1.125	1.500	1.875	2.250	2.625	1.042	1.417	1.792	2.167	2.542	0.750	1.125	1.500	1.875	2.250	7.30 / 6.70	11.70 / 10.80	16.20 / 14.90	20.70 / 19.00	25.10 / 23.00
1.284	1.722	2.159	2.596	3.034	1.193	1.631	2.068	2.506	2.943	0.875	1.312	1.750	2.187	2.625	7.90 / 7.20	12.60 / 11.60	17.40 / 15.90	22.10 / 20.30	26.90 / 24.60
1.450	1.950	2.450	2.950	3.450	1.350	1.850	2.350	2.850	3.350	1.000	1.500	2.000	2.500	3.000	8.30 / 7.60	13.20 / 12.10	18.10 / 16.60	23.10 / 21.20	28.00 / 25.70
1.625	2.187	2.750	3.312	3.875	1.514	2.076	2.639	3.201	3.764	1.125	1.687	2.250	2.812	3.375	8.40 / 7.80	13.30 / 12.30	18.40 / 17.00	23.40 / 21.50	28.40 / 26.10
1.750	2.375	3.000	3.625	4.250	1.639	2.264	2.889	3.514	4.139	1.250	1.875	2.500	3.125	3.750	9.50 / 8.80	15.00 / 13.90	20.60 / 19.00	26.20 / 24.20	31.70 / 29.30
1.937	2.625	3.312	4.000	4.687	1.812	2.500	3.187	3.875	4.562	1.375	2.062	2.750	3.437	4.125	9.30 / 8.50	14.60 / 13.50	20.10 / 18.50	25.50 / 23.50	31.00 / 28.50
2.062	2.812	3.562	4.312	5.062	1.937	2.687	3.437	4.187	4.937	1.500	2.250	3.000	3.750	4.500	10.30 / 9.40	16.10 / 14.80	22.10 / 20.10	28.00 / 25.50	33.90 / 30.90
0.237	0.300	0.362	0.425	0.487	0.212	0.275	0.337	0.400	0.462	0.125	0.187	0.250	0.312	0.375	3.40 / 3.00	5.80 / 5.10	8.40 / 7.30	10.90 / 9.40	13.40 / 11.60
0.375	0.469	0.562	0.656	0.750	0.333	0.427	0.521	0.614	0.708	0.187	0.281	0.375	0.469	0.562	2.90 / 2.60	5.10 / 4.60	7.40 / 6.60	9.70 / 8.70	11.90 / 10.70
0.475	0.600	0.725	0.850	0.975	0.425	0.550	0.675	0.800	0.925	0.250	0.375	0.500	0.625	0.750	3.40 / 3.10	5.90 / 5.40	8.50 / 7.70	11.00 / 9.90	13.50 / 12.20
0.562	0.718	0.875	1.031	1.187	0.507	0.663	0.819	0.975	1.132	0.312	0.469	0.625	0.781	0.937	4.10 / 3.80	6.90 / 6.40	9.80 / 9.00	12.60 / 11.60	15.50 / 14.20
0.656	0.844	1.031	1.219	1.406	0.594	0.781	0.969	1.156	1.344	0.375	0.562	0.750	0.937	1.125	4.40 / 4.10	7.40 / 6.90	10.50 / 9.70	13.50 / 12.50	16.50 / 15.30
0.758	0.977	1.196	1.415	1.633	0.687	0.906	1.125	1.344	1.562	0.437	0.656	0.875	1.094	1.312	4.60 / 4.20	7.60 / 7.10	10.70 / 9.90	13.80 / 12.80	16.90 / 15.60
0.875	1.125	1.375	1.625	1.875	0.792	1.042	1.292	1.542	1.792	0.500	0.750	1.000	1.250	1.500	4.50 / 4.10	7.40 / 7.00	10.50 / 9.80	13.60 / 12.60	16.60 / 15.40
0.937	1.219	1.500	1.781	2.062	0.854	1.135	1.417	1.698	1.979	0.562	0.844	1.125	1.406	1.687	5.20 / 4.90	8.60 / 8.00	12.00 / 11.20	15.40 / 14.40	18.80 / 17.60
1.034	1.347	1.659	1.972	2.284	0.943	1.256	1.568	1.881	2.193	0.625	0.937	1.250	1.562	1.875	5.30 / 5.00	8.70 / 8.20	12.20 / 11.50	15.70 / 14.70	19.20 / 17.90
1.200	1.575	1.950	2.325	2.700	1.100	1.475	1.850	2.225	2.600	0.750	1.125	1.500	1.875	2.250	6.00 / 5.60	9.70 / 9.20	13.50 / 12.70	17.30 / 16.30	21.10 / 19.80
1.375	1.812	2.250	2.687	3.125	1.264	1.701	2.139	2.576	3.014	0.875	1.312	1.750	2.187	2.625	6.30 / 6.00	10.20 / 9.70	14.30 / 13.40	18.20 / 17.10	22.20 / 20.90
1.562	2.062	2.562	3.062	3.562	1.437	1.937	2.437	2.937	3.437	1.000	1.500	2.000	2.500	3.000	6.50 / 6.10	10.40 / 9.90	14.50 / 13.70	18.60 / 17.50	22.60 / 21.20
1.768	2.330	2.893	3.455	4.018	1.625	2.187	2.750	3.312	3.875	1.125	1.687	2.250	2.812	3.375	6.30 / 5.90	10.20 / 9.60	14.30 / 13.40	18.20 / 17.10	22.20 / 20.80
1.893	2.518	3.143	3.768	4.393	1.750	2.375	3.000	3.625	4.250	1.250	1.875	2.500	3.125	3.750	7.20 / 6.80	11.60 / 10.90	16.00 / 15.00	20.40 / 19.20	24.90 / 23.30
2.250	3.000	3.750	4.500	5.250	2.083	2.833	3.583	4.333	5.083	1.500	2.250	3.000	3.750	4.500	7.50 / 7.00	11.90 / 11.30	16.50 / 15.50	21.10 / 19.80	25.60 / 24.00
0.286	0.348	0.411	0.473	0.536	0.250	0.312	0.375	0.437	0.500	0.125	0.187	0.250	0.312	0.375	1.90 / 1.70	3.60 / 3.20	5.30 / 4.80	7.00 / 6.40	8.80 / 7.90
0.487	0.612	0.737	0.862	0.987	0.434	0.559	0.684	0.809	0.934	0.250	0.375	0.500	0.625	0.750	3.10 / 2.80	5.40 / 5.00	7.80 / 7.10	10.10 / 9.20	12.50 / 11.40
0.612	0.799	0.987	1.174	1.362	0.559	0.747	0.934	1.122	1.309	0.375	0.562	0.750	0.937	1.125	5.50 / 5.00	8.90 / 8.20	12.50 / 11.40	16.00 / 14.60	19.50 / 17.90
0.821	1.071	1.321	1.571	1.821	0.750	1.000	1.250	1.500	1.750	0.500	0.750	1.000	1.250	1.500	5.30 / 4.90	8.80 / 8.10	12.20 / 11.20	15.70 / 14.40	19.10 / 17.60
0.946	1.258	1.571	1.883	2.196	0.875	1.187	1.500	1.812	2.125	0.625	0.937	1.250	1.562	1.875	7.10 / 6.50	11.30 / 10.40	15.70 / 14.40	20.00 / 18.40	24.30 / 22.30
1.071	1.446	1.821	2.196	2.571	1.000	1.375	1.750	2.125	2.500	0.750	1.125	1.500	1.875	2.250	8.80 / 8.10	13.90 / 12.90	19.20 / 17.60	24.30 / 22.40	29.50 / 27.20
1.196	1.634	2.071	2.509	2.946	1.125	1.562	2.000	2.437	2.875	0.875	1.312	1.750	2.187	2.625	10.50 / 9.70	16.50 / 15.30	22.60 / 20.80	28.70 / 26.40	34.70 / 32.00
1.409	1.909	2.409	2.909	3.409	1.318	1.818	2.318	2.818	3.318	1.000	1.500	2.000	2.500	3.000	9.30 / 8.60	14.70 / 13.60	20.10 / 18.60	25.60 / 23.60	31.00 / 28.60
1.660	2.284	2.909	3.534	4.159	1.568	2.193	2.818	3.443	4.068	1.250	1.875	2.500	3.125	3.750	12.00 / 11.10	18.70 / 17.40	25.60 / 23.70	32.40 / 30.00	39.20 / 36.20
1.909	2.659	3.409	4.159	4.909	1.818	2.568	3.318	4.068	4.818	1.500	2.250	3.000	3.750	4.500	14.70 / 13.60	22.80 / 21.20	31.00 / 28.70	39.20 / 36.30	47.30 / 43.80

Optimum Thread performance with Wire Thread Inserts is achieved when the inserts are installed 1/2 to 1 pitch below the surface of the Tapped Hole. This means that the actual length of an installed insert is equal to dimension Q less 1/2 to 1 pitch. Dimensions S and T allow for tap end clearance of intermediate taps. When using Bottoming and Spiral Flute Taps these dimensions maybe reduced by an amount equal to 2 thread pitches. Any counterbore depths must be added to these dimensions.

BA / BSB / UN-8 PITCH	
A	Ø de taladrado o interior de rosca previa.
B	Ø mayor de rosca previa (Mínima).
C	Ø de flancos de rosca previa.
D	Ø de flancos de inserto instalado.
E	Ø interior del inserto instalado (Mínimo).
FC	Ø exterior del inserto en estado libre.
S	Profundidad del taladrado (Mínima).
T	Profundidad "útil" de roscado (Mínima).
Q	Rosca "útil" del inserto.
NC	Número de filetes o hilos

BA / BSB / UN-8 PITCH	
A	Ø de perçage ou intérieur de l'avant-trou
B	Ø supérieur de l'avant-trou
C	Ø de flanc de l'avant-trou
D	Ø de flanc du filet rapporté posé
E	Ø intérieur du filet rapporté posé (mini.)
FC	Ø extérieur du filet rapporté à l'état libre
S	Profondeur de perçage (mini.)
T	Profondeur "utile" du taraudage (mini.)
Q	Filetage "utile" du filet rapporté
NC	Nombre de filets



IMPORTANTE: El éxito o fracaso de operaciones de taladrado y roscado dependen especialmente del material a trabajar. Las dimensiones detalladas son recomendaciones generales no específicas para un material concreto. Sin embargo, conviene que sean tenidas en cuenta ya que cumplen los requisitos marcados por los standards aplicables y los más reconocidos fabricantes. Para encontrar información relativa a diferentes standards, acuda a la Web www.bluemaster.es.

IMPORTANT: Le succès ou l'échec d'une opération de perçage et de taraudage dépend particulièrement du matériel à travailler. Les dimensions spécifiées sont des recommandations générales non spécifiques pour un matériel concret. Néanmoins, il convient de les prendre en compte étant donné qu'elles répondent aux exigences stipulées par les standards et les fabricants les plus reconnus. Pour retrouver l'information relative aux différents standards, rendez-vous sur la page web: www.bluemaster.es

Para obtener el mayor rendimiento posible del inserto, debe ser introducido 0.5 ó 1 vez el paso por debajo de agujero roscado. Ello significa que la longitud real que ofrece el inserto es la dimensión "Q" restando 0.5 ó 1 vez el paso. La dimensión "S" representa la profundidad del agujero, mientras que la "T" representa la longitud roscada útil, que puede variar en función de la longitud del cono de entrada del macho empleado.

Pour obtenir les meilleures performances du filet rapporté, celui-ci doit être posé à une profondeur de 1/2 pas à 1 pas en dessous de la surface du trou taraudé. Cela signifie que la longueur réelle qu'offre le filet rapporté est la dimension "Q" de laquelle on retire 0,5 ou 1 fois le pas. La dimension "S" représente la profondeur du trou tandis que le "T" représente la longueur taraudée utile, qui peut varier en fonction de la longueur du cône d'entrée du taraud utilisé.

MEDIDA/SIZE/DIMENSION	Broca / Drill/ Foret mm		A max/min	B	C (Normal)	D (Normal)	E	FC min/max
BA								
BA 6	2.90	#33	0.116 / 0.113	0.134	0.1252 / 0.1226	0.1014 / 0.0976	0.0850	0.14 / 0.15
BA 5	3.40	#29	0.135 / 0.129	0.152	0.1426 / 0.1399	0.1159 / 0.1120	0.0980	0.15 / 0.17
BA 4	3.80	#25	0.152 / 0.147	0.171	0.1605 / 0.1574	0.1305 / 0.1262	0.1106	0.17 / 0.19
BA 3	4.30	11/64	0.171 / 0.166	0.194	0.1821 / 0.1786	0.1488 / 0.1441	0.1268	0.20 / 0.21
BA 2	4.90	#10	0.196 / 0.191	0.221	0.2079 / 0.2042	0.1709 / 0.1659	0.1468	0.22 / 0.24
BA 1	5.50	7/32	0.220 / 0.213	0.249	0.2342 / 0.2299	0.1929 / 0.1874	0.1661	0.25 / 0.27
BA 0	6.20	C	0.246 / 0.241	0.281	0.2645 / 0.2598	0.2185 / 0.2126	0.1890	0.28 / 0.31

MEDIDA/SIZE/DIMENSION	Broca / Drill/ Foret mm		A max/min	B	C (Normal)	D (Medium)	E	FC min/max
BSB								
3/16 X 32	5.10	13/64	0.205 / 0.195	0.232	0.2112 / 0.2136	0.1738 / 0.1709	0.1543	0.23 / 0.26
1/4 X 26	6.60	17/64	0.270 / 0.258	0.304	0.2790 / 0.2817	0.2328 / 0.2295	0.2090	0.31 / 0.34
5/16 X 26	8.00	5/16	0.332 / 0.320	0.367	0.3415 / 0.3444	0.2965 / 0.2920	0.2715	0.37 / 0.41
3/8 X 26	9.80	25/64	0.395 / 0.383	0.429	0.4040 / 0.4070	0.3583 / 0.3545	0.3340	0.43 / 0.48
7/16 X 26	11.10	7/16	0.457 / 0.446	0.492	0.4665 / 0.4697	0.4210 / 0.4170	0.3965	0.50 / 0.55
1/2 X 26	12.70	1/2	0.520 / 0.508	0.554	0.5290 / 0.5323	0.4837 / 0.4795	0.4590	0.56 / 0.61
9/16 X 26	14.75	37/64	0.582 / 0.571	0.617	0.5915 / 0.5945	0.5464 / 0.5420	0.5215	0.62 / 0.68
5/8 X 26	16.30	41/64	0.645 / 0.633	0.679	0.6540 / 0.6575	0.6090 / 0.6045	0.5840	0.69 / 0.75
3/4 X 26	19.50	49/64	0.769 / 0.758	0.804	0.7790 / 0.7827	0.7343 / 0.7295	0.7090	0.81 / 0.89
1 X 24	25.75	1.1/64	1.020 / 1.009	1.059	1.0314 / 1.0355	0.9828 / 0.9778	0.9556	1.07 / 1.17

MEDIDA/SIZE/DIMENSION	Broca / Drill/ Foret mm		A max/min	B	C (3B)	Tap (Std) 8 Pitch	D (2B)	FC min/max
UN-8 PITCH								
1.1/8 X 8	28.50	1.1/8	1.155 / 1.130	1.261	1.1757 / 1.1688	1.1/4	1.0528 / 1.0438	1.25 / 1.30
1.1/4 X 8	32.00	1.1/4	1.280 / 1.255	1.386	1.3008 / 1.2938	1.3/8	1.1780 / 1.1688	1.39 / 1.43
1.3/8 X 8	35.00	1.3/8	1.405 / 1.380	1.511	1.4259 / 1.4188	1.1/2	1.3031 / 1.2938	1.52 / 1.57
1.1/2 X 8	38.00	1.1/2	1.530 / 1.505	1.636	1.5510 / 1.5438	1.5/8	1.4283 / 1.4188	1.65 / 1.69
1.5/8 X 8	41.00	1.5/8	1.655 / 1.630	1.761	1.6762 / 1.6688	1.3/4	1.5535 / 1.5438	1.78 / 1.90
1.3/4 X 8	44.50	1.3/4	1.780 / 1.755	1.886	1.8013 / 1.7938	1.7/8	1.6786 / 1.6688	1.90 / 2.04
1.7/8 X 8	47.50	1.7/8	1.905 / 1.880	2.011	1.9264 / 1.9188	2	1.8038 / 1.7938	2.03 / 2.16
2 X 8	50.80	2	2.030 / 2.005	2.136	2.0515 / 2.0438	2.1/8	1.9289 / 1.9188	2.16 / 2.28

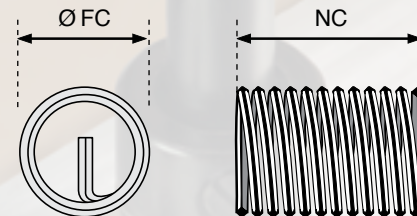
powercoil



powercoil
by CELESA

BA / BSB / UN-8 PITCH	
A	Minor Diameter
B	Major Diameter
C	Pitch Diameter of Tapped Hole (Class 5H)
D	Pitch Diameter of Installed Insert (Class 4H)
E	Installed Insert Internal Diameter - min.
FC	Free Coil Diameter of Un-installed Insert

BA / BSB / UN-8 PITCH	
S	Drilling Length - minimum
T	Tapping Length - minimum
Q	Nominal Length
NC	Number of Coils in Un-installed Insert counted 90° from tang



IMPORTANT The success of any drill and tapping operation is dependant upon many factors –type of material being cut, cutting speed, coolant, equipment being used – and it is not possible to give specific drill sizes for each material. Drill sizes shown are recommendations only and PowerCoil would strongly suggest that independent testing be performed for specific and critical applications.

When using wire thread inserts it is important that the drilling and tapping diameters and lengths listed below are adhered to.

The figures outlined in these tables encompass effective free coil tolerances for most globally recognized standards and manufacturers, including those of reduced diameter wire thread inserts.

PowerCoil wire thread inserts can be manufactured to different standards upon request. Technical data on these standards can be obtained from our website – www.bluemaster.es

S					T					Q					NC max/min				
1.0D	1.5D	2.0D	3.0D		1.0D	1.5D	2.0D	2.5D	3.0D	1.0D	1.5D	2.0D	2.5D	3.0D	1.0D	1.5D	2.0D	2.5D	3.0D
0.204	0.259	0.314	0.369	0.424	0.183	0.238	0.293	0.348	0.404	0.110	0.165	0.220	0.275	0.331	3.60 / 3.30	6.20 / 5.60	8.70 / 7.90	11.20 / 10.20	13.80 / 12.50
0.230	0.293	0.356	0.419	0.482	0.207	0.270	0.333	0.396	0.459	0.126	0.189	0.252	0.315	0.378	3.80 / 3.40	6.40 / 5.80	9.00 / 8.10	11.60 / 10.50	14.20 / 12.90
0.259	0.329	0.400	0.471	0.542	0.233	0.303	0.374	0.445	0.516	0.142	0.212	0.283	0.354	0.425	3.80 / 3.50	6.40 / 5.80	9.10 / 8.20	11.70 / 10.60	14.40 / 13.00
0.291	0.371	0.452	0.533	0.613	0.262	0.343	0.423	0.504	0.585	0.161	0.242	0.323	0.403	0.484	3.90 / 3.60	6.70 / 6.00	9.40 / 8.50	12.10 / 10.90	14.80 / 13.40
0.328	0.421	0.513	0.606	0.698	0.297	0.389	0.482	0.574	0.667	0.185	0.277	0.370	0.462	0.555	4.20 / 3.80	6.90 / 6.30	9.80 / 8.80	12.60 / 11.40	15.40 / 13.90
0.368	0.472	0.576	0.681	0.785	0.333	0.437	0.541	0.646	0.750	0.209	0.313	0.417	0.522	0.626	4.20 / 3.80	7.10 / 6.40	9.90 / 9.00	12.80 / 11.60	15.60 / 14.10
0.413	0.531	0.649	0.768	0.886	0.374	0.492	0.610	0.728	0.846	0.236	0.354	0.472	0.590	0.709	4.30 / 3.90	7.20 / 6.60	10.10 / 9.20	13.00 / 11.80	16.00 / 14.50

S					T					Q					NC max/min				
1.0D	1.5D	2.0D	2.5D	3.0D	1.0D	1.5D	2.0D	2.5D	3.0D	1.0D	1.5D	2.0D	2.5D	3.0D	1.0D	1.5D	2.0D	2.5D	3.0D
0.33	0.42	0.52	0.61	0.70	0.30	0.39	0.48	0.58	0.67	0.187	0.281	0.375	0.469	0.562	4.10/3.70	6.90/6.20	9.70/8.70	12.50/11.20	15.30/13.70
0.42	0.55	0.67	0.80	0.92	0.38	0.51	0.63	0.76	0.88	0.250	0.375	0.500	0.625	0.750	4.60/4.10	7.60/6.90	10.70/9.60	13.80/12.30	16.80/15.10
0.49	0.64	0.80	0.95	1.11	0.45	0.60	0.76	0.92	1.07	0.312	0.469	0.625	0.781	0.937	6.20/5.50	10.00/9.00	13.90/12.50	17.80/16.00	21.60/19.40
0.55	0.74	0.92	1.11	1.30	0.51	0.70	0.88	1.07	1.26	0.375	0.562	0.750	0.937	1.125	7.80/7.00	12.40/11.20	17.10/15.40	21.70/19.60	26.40/23.80
0.61	0.83	1.05	1.27	1.49	0.57	0.79	1.01	1.23	1.45	0.437	0.656	0.875	1.094	1.312	9.40/8.40	14.80/13.40	20.30/18.30	25.80/23.30	31.20/28.20
0.67	0.92	1.17	1.42	1.67	0.63	0.88	1.13	1.38	1.63	0.500	0.750	1.000	1.250	1.500	11.00/9.90	17.20/15.60	23.50/21.20	29.80/26.90	36.00/32.60
0.74	1.02	1.30	1.58	1.86	0.70	0.98	1.26	1.54	1.82	0.562	0.844	1.125	1.406	1.687	12.60/11.40	19.70/17.80	26.70/24.20	33.80/30.50	40.90/36.90
0.80	1.11	1.42	1.74	2.05	0.76	1.07	1.38	1.70	2.01	0.625	0.937	1.250	1.562	1.875	14.20/12.80	22.00/19.90	29.90/27.10	37.80/34.20	45.70/41.30
0.92	1.30	1.67	2.05	2.42	0.88	1.26	1.63	2.01	2.38	0.750	1.125	1.500	1.875	2.250	17.40/15.70	26.90/24.30	36.30/32.90	45.80/41.50	55.30/50.10
1.19	1.69	2.19	2.69	3.19	1.15	1.65	2.15	2.65	3.15	1.000	1.500	2.000	2.500	3.000	21.80/19.80	33.50/30.40	45.30/41.00	57.00/51.60	68.70/62.20

S					T					Q					NC max/min				
1.0D	1.5D	2.0D	2.5D	3.0D	1.0D	1.5D	2.0D	2.5D	3.0D	1.0D	1.5D	2.0D	2.5D	3.0D	1.0D	1.5D	2.0D	2.5D	3.0D
1.69	2.25	2.81	3.38	3.94	1.56	2.13	2.69	3.25	3.81	1.125	1.688	2.250	2.81	3.38	7.50/7.10	12.00/11.50	16.60/15.80	21.10/20.10	25.60/24.50
1.81	2.44	3.06	3.69	4.31	1.69	2.31	2.94	3.56	4.19	1.250	1.875	2.500	3.13	3.75	8.30/8.10	13.30/12.90	18.30/17.70	23.30/22.60	28.20/27.40
1.94	2.62	3.31	4.00	4.69	1.81	2.50	3.19	3.88	4.56	1.375	2.062	2.750	3.44	4.13	9.30/9.00	14.80/14.30	20.20/19.60	25.70/24.90	31.20/30.20
2.06	2.81	3.56	4.31	5.06	1.94	2.69	3.44	4.19	4.94	1.500	2.250	3.000	3.75	4.50	10.30/10.00	16.20/15.80	22.20/21.50	28.10/27.30	34.10/33.10
2.19	3.00	3.81	4.63	5.44	2.06	2.88	3.69	4.50	5.31	1.625	2.438	3.250	4.06	4.88	11.20/10.50	17.70/16.40	24.10/22.40	30.50/28.40	37.00/34.30
2.31	3.19	4.06	4.94	5.81	2.19	3.06	3.94	4.81	5.69	1.750	2.625	3.500	4.38	5.25	12.20/11.40	19.20/17.80	26.10/24.20	33.00/30.70	39.90/37.10
2.44	3.37	4.31	5.25	6.19	2.31	3.25	4.19	5.13	6.06	1.875	2.812	3.750	4.69	5.63	13.20/12.40	20.60/19.30	28.10/26.20	35.50/33.20	42.90/40.10
2.56	3.56	4.56	5.56	6.56	2.44	3.44	4.44	5.44	6.44	2.000	3.000	4.000	5.00	6.00	14.20/13.40	22.10/20.90	30.00/28.40	38.00/35.90	45.90/43.30

Optimum Thread performance with Wire Thread Inserts is achieved when the inserts are installed 1/2 to 1 pitch below the surface of the Tapped Hole. This means that the actual length of an installed insert is equal to dimension Q less 1/2 to 1 pitch. Dimensions S and T allow for tap end clearance of intermediate taps. When using Bottoming and Spiral Flute Taps these dimensions maybe reduced by an amount equal to 2 thread pitches. Any counterbore depths must be added to these dimensions.

loksert[®]

by **celessa**



Métrica y métrica fina
Metric course and metric fine
Métrique à pas normaux et fins



Rosca Americana UNC
Unified National Course
Pas normal américain UNC



Rosca American fina UNF
Unified National Fine
Pas fin américain UNF



Inserto de seguridad
Keylocking insert
Filet à frein



Inserto de pared delgada
Thin wall insert
Filet à paroi mince



Inserto de pared reforzada
Heavy duty insert
Filet en acier à paroi renforcée



Inserto de acero al carbono
Carbon Steel insert
Filet en acier au carbone



Inserto de acero inoxidable
Stainless steel insert
Filet en acier inoxydable



Código de familia
Group Code
Code groupe



Rosca **interna** del inserto

Insert **internal** Thread

Filetage **interne** du filet



Rosca **externa** del inserto

Insert **externes** Thread

Filetage **externe** du filet



Paso en mm.

Pich (mm)

Pas (mm)



Longitud del inserto

Insert Length

Longeur du filet



Los insertos de seguridad Loksert son de fácil instalación, y su ensamblaje es ideal para reemplazar roscas dañadas o gastadas en, esencialmente, cualquier material – ferroso, no ferroso y no metálico. Están fabricados con la más alta calidad de acero al carbón o de acero inoxidable. Un inserto loksert se suministra con los arrastres pre-ensamblados. Los filetes de apriete posicionados estratégicamente colocan al inserto en la profundidad correcta de la superficie del material de alojamiento. Los lokserts están recomendados para reparación y creación de roscas en un amplio rango de aplicaciones incluyendo herrerías y fundiciones y se recomiendan especialmente para casos de gran desgaste de uso y vibración, tales como minería, construcción y equipo de gran movimiento.

Características y Ventajas

- Se instalan usando machos y brocas standard.
- Sólidos, utilizan filetes de apriete que proporcionan una alta seguridad mecánica contra la rotación.
- Alta resistencia y fiabilidad que proporciona una gran resistencia contra el desplazamiento.
- Instalación sencilla. No requiere de conocimientos especiales.
- Recomendados para su uso en un amplio rango de materiales de alojamiento.
- Imposible de confundir las roscas durante la instalación.
- En caso de ser necesario, sencillo proceso de extracción.
- Sin arrastre que cortar y quitar.
- Disponibles en medidas métricas, pulgadas y para bujías.
- Disponibles en pared delgada y pared reforzada.



Loksert solid keylocking inserts are an easily installed thread assembly that is ideal for replacing damaged or worn threads in virtually any material – ferrous, non-ferrous and non-metallic. They are constructed from high quality carbon steel or extremely hardwearing stainless steel. One piece loksert inserts are supplied with the dove-tailed locking keys pre-assembled. The pre-positioned keys automatically position the insert at the correct depth below the surface of the parent material. Lokserts are suitable for repairing and creating threads in a wide range of applications including forgings and castings and are especially suited to situations that experience heavy wear and vibration - such as mining, construction and earthmoving equipment.

Features and Benefits


















- Solid bushing utilising locking keys provides positive mechanical lock against rotation
- High strength and reliability provides maximum pullout strength
- Installed using standard drills and taps
- Simple installation - no special skills required
- Suitable for use in a wide range of parent materials
- Impossible to cross thread during installation
- Simple removal process if required
- No tang to break and remove
- Available in metric sizes, inch sizes and spark plug sizes
- Available in Thinwall and Heavy Duty









Les filets rapportés solides à frein Loksert sont faciles à poser, leur assemblage est idéal pour remplacer des filets endommagés ou usés, dans pratiquement tout type de matériel, ferreux, non ferreux et non métallique. Ils sont fabriqués à partir d'acier au carbone ou d'acier inoxydable de la plus haute qualité. Les filets rapportés Loksert sont fournis avec les tenons de blocage préassemblés. Les tenons pré-positionnés mettent automatiquement le filet rapporté en place à la profondeur correcte sous la surface du matériel récepteur. Les filets rapportés Loksert conviennent à la réparation et à la création de filetages pour une large gamme d'applications, y compris pour les forgeages et les coulages, et ils conviennent particulièrement aux situations qui subissent une forte usure et de fortes vibrations, tels que les équipements miniers, le matériel de construction et les équipements de BTP.

Caractéristiques et avantages

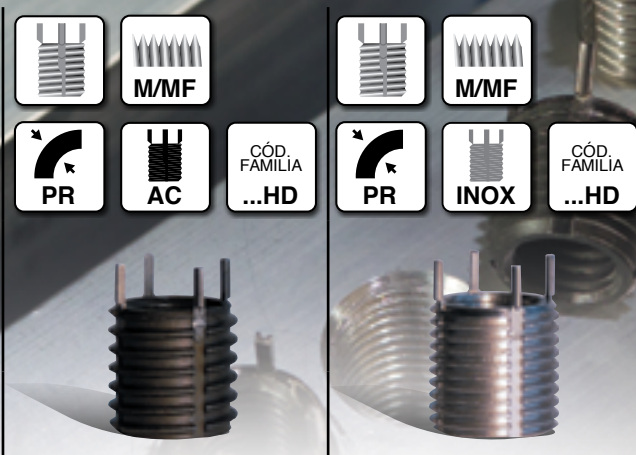
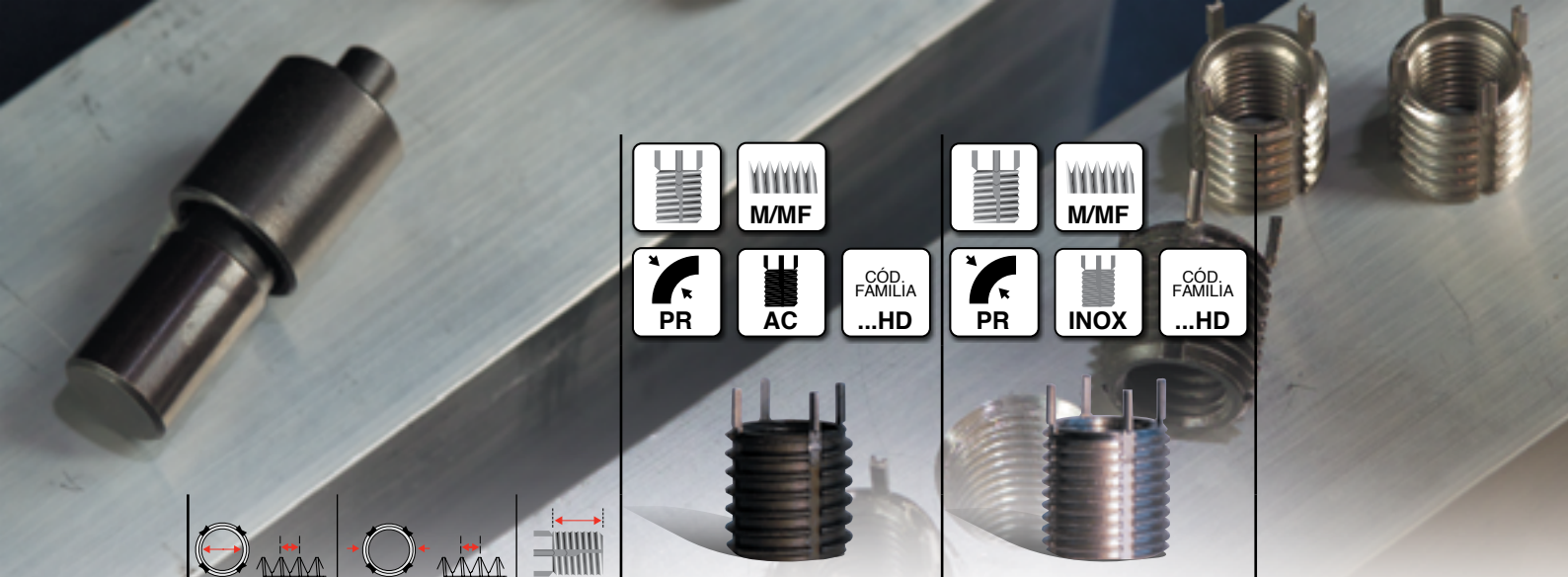
- Une douille solide utilisant des tenons de blocage fournit une résistance mécanique contre la rotation
- La grande résistance et la fiabilité procurent une résistance maximale à l'arrachement
- L'installation se fait à l'aide de forets et de tarauds standards
- L'installation est simple, aucune compétence spéciale n'est requise
- Ils sont appropriés à l'utilisation dans une gamme variée de matériaux récepteurs
- Imposible à fausser durant l'installation
- Facile à retirer si nécessaire
- Aucun tenon à casser et à retirer
- Disponibles en dimensions métriques, en pouces et en dimensions de bougie d'allumage
- Disponibles avec paroi fine et renforcée

  			  		  	
			  		  	
						
	Dimensions	mm	Loksert	€ / Unit	Loksert	€ / Unit
M/MF			Ref.		Ref.	1000...
M 5 x 0.80	8 x 1.25	8.0	3620-5.00TW	6,47	3720-5.00TW	14,90
M 6 x 1.00	10 x 1.25	10.0	3620-6.00TW	6,89	3720-6.00TW	14,63
M 8 x 1.00	12 x 1.25	12.0	3621-8.00TW	7,74	3721-8.00TW	15,33
M 8 x 1.25	12 x 1.25	12.0	3620-8.00TW	7,74	3720-8.00TW	15,33
M 10 x 1.25	14 x 1.50	14.0	3621-10.00TW	9,56	3721-10.00TW	17,44
M 10 x 1.50	14 x 1.50	14.0	3620-10.00TW	9,56	3720-10.00TW	17,44
M 12 x 1.25	16 x 1.50	16.0	3620-12.00TW	11,95	3720-12.00TW	21,94
M 12 x 1.75	16 x 1.50	16.0	3621-12.00TW	11,95	3721-12.00TW	21,94

  						
	Dimensions	mm	Loksert	€ / Unit	Loksert	€ / Unit
UNC			Ref.		Ref.	
UNC N°10 - 24	5/16 x 18	0.31	3632-10GTW	4,08	3732-10GTW	7,45
UNC 1/4 - 20	3/8 x 16	0.37	3632-1/4TW	4,36	3732-1/4TW	7,74
UNC 5/16 - 18	7/16 x 14	0.43	3632-5/16TW	4,64	3732-5/16TW	12,52
UNC 3/8 - 16	1/2 x 13	0.50	3632-3/8TW	5,20	3732-3/8TW	15,33
UNC 7/16 - 14	9/16 x 12	0.56	3632-7/16TW	6,75	3732-7/16TW	22,36
UNC 1/2 - 13	5/8 x 11	0.62	3632-1/2TW	7,88	3732-1/2TW	23,77

  						
	Dimensions	mm	Loksert	€ / Unit	Loksert	€ / Unit
UNF			Ref.		Ref.	
UNF N°10 - 32	5/16 x 18	0.31	3634-10GTW	4,08	3734-10GTW	7,45
UNF 1/4 - 28	3/8 x 16	0.37	3634-1/4TW	4,36	3734-1/4TW	7,74
UNF 5/16 - 24	7/16 x 14	0.43	3634-5/16TW	4,64	3734-5/16TW	12,52
UNF 3/8 - 24	1/2 x 13	0.50	3634-3/8TW	5,20	3734-3/8TW	15,33
UNF 7/16 - 20	9/16 x 12	0.56	3634-7/16TW	6,75	3734-7/16TW	22,36
UNF 1/2 - 20	5/8 x 11	0.62	3634-1/2TW	7,88	3734-1/2TW	23,77





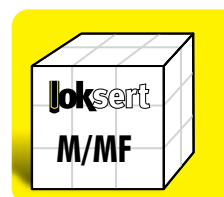
	Dimensions	mm	Loksert	€/Unit	Loksert	€/Unit
M/MF			Ref.		Ref.	
M 4 x 0.70	8 x 1.25	8.0	3620-4.00HD	12,23	3720-4.00HD	16,03
M 5 x 0.80	10 x 1.25	10.0	3620-5.00HD	6,47	3720-5.00HD	14,90
M 6 x 1.00	12 x 1.25	12.0	3620-6.00HD	6,89	3720-6.00HD	14,63
M 8 x 1.00	14 x 1.50	14.0	3621-8.00HD	7,74	3721-8.00HD	15,33
M 8 x 1.25	14 x 1.50	14.0	3620-8.00HD	7,74	3720-8.00HD	15,33
M 10 x 1.25	16 x 1.50	16.0	3621-10.00HD	9,56	3721-10.00HD	17,44
M 10 x 1.50	16 x 1.50	16.0	3620-10.00HD	9,56	3720-10.00HD	17,44
M 12 x 1.25	18 x 1.50	18.0	3621-12.00HD	11,96	3721-12.00HD	21,94
M 12 x 1.75	18 x 1.50	18.0	3620-12.00HD	11,96	3720-12.00HD	21,94
M 14 x 1.50	20 x 1.50	20.0	3621-14.00HD	14,63	3721-14.00HD	28,97
M 14 x 2.00	20 x 1.50	20.0	3620-14.00HD	14,63	3720-14.00HD	28,97
M 16 x 1.50	22 x 1.50	22.0	3621-16.00HD	17,16	3721-16.00HD	31,93
M 16 x 2.00	22 x 1.50	22.0	3620-16.00HD	17,16	3720-16.00HD	31,93
M 18 x 1.50	24 x 1.50	24.0	3621-18.00HD	25,60	3721-18.00HD	45,85
M 20 x 1.50	30 x 2.00	30.0	3620-20.00HD	29,82	3721-20.00HD	56,25
M 20 x 2.50	30 x 2.00	30.0	3621-20.00HD	29,82	3720-20.00HD	56,25
M 22 x 1.50	32 x 2.00	32.0	3621-22.00HD	36,28	3721-22.00HD	120,10
M 24 x 2.00	33 x 2.00	33.0	3621-24.00HD	54,28	3721-24.00HD	150,05
M 24 x 3.00	33 x 2.00	33.0	3620-24.00HD	54,28	3720-24.00HD	150,05










Inserto de pared delgada
Thin wall insert
Filet à paroi mince









Inserto de acero al carbono
Carbon Steel insert
Filet en acier au carbone


Inserto de pared reforzada
Heavy duty insert
Filet en acier à paroi renforcée

Inserto de acero inoxidable
Stainless steel insert
Filet en acier inoxydable

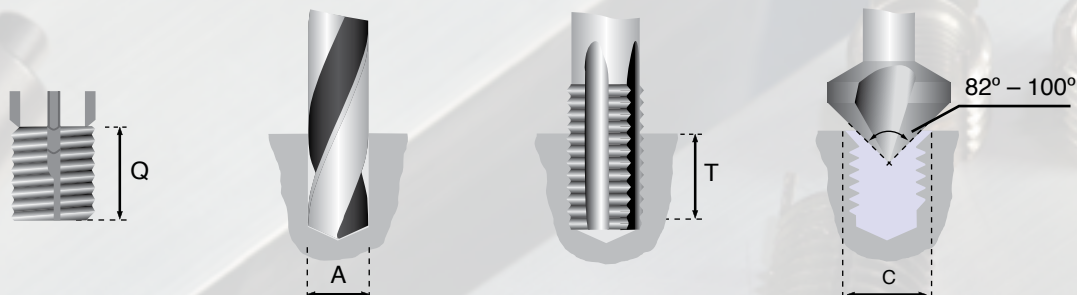


			 		 	
			 		 	
			CÓD. FAMILIA ...HD		CÓD. FAMILIA ...HD	
			PR		INOX	
			AC		...HD	
			PR		INOX	
			...HD		...HD	
			PR		INOX	
			...HD		...HD	
			PR		INOX	
			...HD		...HD	
			PR		INOX	
			...HD		...HD	
			PR		INOX	
			...HD		...HD	
			PR		INOX	
			...HD		...HD	
			PR		INOX	
			...HD		...HD	
			PR		INOX	
			...HD		...HD	
			PR		INOX	
			...HD		...HD	
			PR		INOX	
			...HD		...HD	
			PR		INOX	
			...HD		...HD	
			PR		INOX	
			...HD		...HD	
			PR		INOX	
			...HD		...HD	
			PR		INOX	
			...HD		...HD	
			PR		INOX	
			...HD		...HD	
			PR		INOX	
			...HD		...HD	
			PR		INOX	
			...HD		...HD	
			PR		INOX	
			...HD		...HD	
			PR		INOX	
			...HD		...HD	
			PR		INOX	
			...HD		...HD	
			PR		INOX	
			...HD		...HD	
			PR		INOX	
			...HD		...HD	
			PR		INOX	
			...HD		...HD	
			PR		INOX	
			...HD		...HD	
			PR		INOX	
			...HD		...HD	
			PR		INOX	
			...HD		...HD	
			PR		INOX	
			...HD		...HD	
			PR		INOX	
			...HD		...HD	
			PR		INOX	
			...HD		...HD	
			PR		INOX	
			...HD		...HD	
			PR		INOX	
			...HD		...HD	
			PR		INOX	
			...HD		...HD	
			PR		INOX	
			...HD		...HD	
			PR		INOX	
			...HD		...HD	
			PR		INOX	
			...HD		...HD	
			PR		INOX	
			...HD		...HD	
			PR		INOX	
			...HD		...HD	
			PR		INOX	
			...HD		...HD	
			PR		INOX	
			...HD		...HD	
			PR		INOX	
			...HD		...HD	
			PR		INOX	
			...HD		...HD	
			PR		INOX	
			...HD		...HD	
			PR		INOX	
			...HD		...HD	
			PR		INOX	
			...HD		...HD	
			PR		INOX	
			...HD		...HD	
			PR		INOX	
			...HD		...HD	
			PR		INOX	
			...HD		...HD	
			PR		INOX	
			...HD		...HD	
			PR		INOX	
			...HD		...HD	
			PR		INOX	
			...HD		...HD	
			PR		INOX	
			...HD		...HD	
			PR		INOX	
			...HD		...HD	
			PR		INOX	
			...HD		...HD	
			PR		INOX	
			...HD		...HD	
			PR		INOX	
			...HD		...HD	
			PR		INOX	
			...HD		...HD	
			PR		INOX	
			...HD		...HD	
			PR		INOX	
			...HD		...HD	
			PR		INOX	
			...HD		...HD	
			PR		INOX	
			...HD		...HD	
			PR		INOX	
			...HD		...HD	
			PR		INOX	
			...HD		...HD	
			PR		INOX	
			...HD		...HD	
			PR		INOX	
			...HD		...HD	
			PR		INOX	
			...HD		...HD	
			PR		INOX	
			...HD		...HD	
			PR		INOX	
			...HD		...HD	
			PR		INOX	
			...HD		...HD	
			PR		INOX	
			...HD		...HD	

		CÓD. FAMILIA ...TT		CÓD. FAMILIA ...HT			CÓD. FAMILIA ...T
							
	Loksert	€	Loksert	€	Loksert	€	
M / MF	Ref.		Ref.		Ref.		
4.00	-	-	3600-4.00HT	86,58	-	-	
5.00	3600-5.00TT	87,96	3600-5.00HT	87,96	3600-190T	49,15	
6.00	3600-6.00TT	90,49	3600-6.00HT	90,49	3600-250T	45,02	
8.00	3600-8.00TT	93,94	3600-8.00HT	93,94	3600-312T	53,98	
10.00	3600-10.00TT	101,52	3600-10.00HT	101,52	3600-375T	53,98	
12.00	3600-12.00TT	108,86	3600-12.00HT	108,86	3600-500T	59,02	
14.00	-	-	3600-14.00HT	118,51	-	-	
16.00	-	-	3600-16.00HT	122,64	3600-625T	59,02	
18.00	-	-	3600-18.00HT	125,85	-	-	
20.00	-	-	3600-20.00HT	130,68	3600-875T	69,59	
22.00	-	-	3600-22.00HT	134,81	-	-	
24.00	-	-	3600-24.00HT	149,06	-	-	

						
	Loksert	€	Loksert	€	Loksert	€
UNC / UNF	Ref.		Ref.		Ref.	
8G	-	-	3600-8GHT	147,68	-	-
10G	3600-10GTT	134,12	3600-10GHT	147,68	3600-190T	49,15
1/4	3600-1/4TT	127,92	3600-1/4HT	107,72	3600-250T	45,02
5/16	3600-5/16TT	107,72	3600-5/16HT	107,72	3600-312T	53,98
3/8	3600-3/8TT	161,46	3600-3/8HT	114,37	3600-375T	53,98
7/16	3600-7/16TT	161,92	3600-7/16HT	117,13	3600-375T	53,98
1/2	3600-1/2TT	117,13	3600-1/2HT	127,92	3600-500T	59,02
9/16	-	-	3600-9/16HT	127,92	3600-500T	59,02
5/8	-	-	3600-5/8HT	147,68	3600-625T	59,02
3/4	-	-	3600-3/4HT	170,87	3600-875T	69,59
7/8	-	-	3600-7/8HT	180,97	3600-875T	69,59
1	-	-	3600-1HT	213,82	3600-100T	69,59
1-1/8	-	-	3600-1.1/8HT	503,43	-	-
1-1/4	-	-	3600-1.1/4HT	544,31	-	-
1-1/2	-	-	3600-1.1/2HT	640,31	-	-





Rosca Interna Internal Thread Filetage Interne Tol 6H mm	Rosca Externa External Thread Filetage Externe Tol 6G mm	Q mm	Hta de Instalación Installation Tool Outil Installation	A mm	C mm	Macho Taraud Tap Tol 6H mm	T Min. mm	R1 mm	R2 mm
---	---	------	---	------	------	-------------------------------------	-----------	-------	-------

PARED DELGADA / THIN WALL / PAROI MINCE

M5 X 0.8	M8 X 1.25	8.0	3600-190T	6.9	8.25	M8 X 1.25	9.5	5.50	4.00
M6 X 1.0	M10 X 1.25	10.0	3600-250T	8.8	10.25	M10 x 1.25	11.5	7.50	4.75
M8 X 1.25	M12 x 1.25	12.0	3600-312T	10.8	12.25	M12 x 1.25	13.5	9.50	4.75
M8 X 1.0	M12 x 1.25	12.0	3600-312T	10.8	12.25	M12 x 1.25	13.5	9.50	4.75
M10 X 1.5	M14 x 1.5	14.0	3600-375T	12.8	14.25	M14 x 1.5	15.5	11.50	4.75
M10 X 1.25	M14 x 1.5	14.0	3600-375T	12.8	14.25	M14 x 1.5	15.5	11.50	4.75
M12 X 1.75	M16 x 1.5	16.0	3600-500T	14.75	16.25	M16 x 1.5	17.5	13.50	4.75
M12 X 1.25	M16 x 1.5	16.0	3600-500T	14.75	16.25	M16 x 1.5	17.5	13.50	4.75

PARED REFORZADA / HEAVY DUTY / PAROI RENFORCÉE

M4 X 0.7	M8 X 1.25	8.0	3600-4.00HT	6.9	8.25	M8 X 1.25	9.5	5.50	4.00
M5 X 0.8	M10 X 1.25	10.0	3600-190T	8.8	10.25	M10 x 1.25	12.5	7.50	4.75
M6 X 1.0	M12 x 1.25	12.0	3600-250T	10.8	12.25	M12 x 1.25	14.5	9.50	4.75
M8 X 1.25	M14 x 1.5	14.0	3600-312T	12.8	14.25	M14 x 1.5	16.5	11.50	4.75
M8 X 1.0	M14 x 1.5	14.0	3600-312T	12.8	14.25	M14 x 1.5	16.5	11.50	4.75
M10 X 1.5	M16 x 1.5	16.0	3600-375T	14.75	16.25	M16 x 1.5	18.5	13.50	4.75
M10 X 1.25	M16 x 1.5	16.0	3600-375T	14.75	16.25	M16 x 1.5	18.5	13.50	4.75
M12 X 1.75	M18 X 1.5	18.0	3600-500T	16.75	18.25	M18 X 1.5	20.5	15.50	4.75
M12 X 1.25	M18 X 1.5	18.0	3600-500T	16.75	18.25	M18 X 1.5	20.5	15.50	4.75
M14 X 2.0	M20 X 1.5	20.0	3600-14.00HT	18.75	20.25	M20 X 1.5	22.5	17.50	4.75
M14 X 1.5	M20 X 1.5	20.0	3600-14.00HT	18.75	20.25	M20 X 1.5	22.5	17.50	4.75
M16 X 2.0	M22 X 1.5	22.0	3600-625T	20.5	22.25	M22 X 1.5	24.5	17.75	6.35
M16 X 1.5	M22 X 1.5	22.0	3600-625T	20.5	22.25	M22 X 1.5	24.5	17.75	6.35
M18 X 1.5	M24 X 1.5	24.0	3600-18.00HT	22.5	24.25	M24 X 1.5	26.5	19.75	6.35
M20 X 2.5	M30 X 2.0	30.0	3600-875T	28.0	30.25	M30 X 2.0	34.5	25.75	6.35
M20 X 1.5	M30 X 2.0	30.0	3600-875T	28.0	30.25	M30 X 2.0	34.5	25.75	6.35
M22 X 1.5	M32 X 2.0	32.0	3600-22.00HT	30.0	32.25	M32 X 2.0	36.5	27.75	6.35
M24 X 3.0	M33 X 2.0	33.0	3600-24.00HT	31.0	33.25	M33 X 2.0	37.5	28.75	6.35
M24 X 2.0	M33 X 2.0	33.0	3600-24.00HT	31.0	33.25	M33 X 2.0	37.5	28.75	6.35

1

Taladrar

Drilling / Percage

Taladre el material entre las pestañas y la rosca interior en la profundidad especificada. Consulte información técnica.

Drill out the material between the locking keys and the internal thread to the specified depth.

Note: Drill size and drilling depth are shown in the Loksert technical tables.

Percer le matériel entre les tenons et le filetage intérieur à la profondeur spécifiée. Consultez l'information technique



2

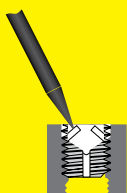
Doblar

Deflect / Plier

Doble las pestañas hacia adentro y rómpalas.

Deflect locking keys inward and break off

Plier les tenons vers l'intérieur et cassez-les



3

Extraer

Remove / Extraire

Saque el inserto mediante un extractor de tornillos.

Remove the insert from the hole by winding it out using a screw extractor or similar type tool.

Enlever le filet rapporté avec un extracteur de vis



4

Instalar

Instal / Installer

Mediante el procedimiento habitual, coloque un nuevo inserto Loksert

A new Loksert insert of exactly the same size can be installed in the original hole.

Poser un nouvel insert, avec la technique habituelle



loksert



loksert
by CELESA

loksert
by CELESA

PARED DELGADA Y PARED REFORZADA / THIN WALL & HEAVY DUTY / PAROI FINE ET PAROI ÉPAISSE

Material del inserto Insert Material Matériel du filet rapporté	Acero al carbono - C1215. Acero inoxidable - AISI 303 Carbon Steel - C1215. Stainless Steel - AISI 303 Acier au Carbone-C1215. Acier Inoxydable-AISI 303	Nº pestañas Nº Keys Nº Tenons	4 pestañas en insertos con rosca interna M7 o mayores 2 pestañas en insertos con rosca interna inferior a M7 Inserts with internal thread of 5/16" (M7) or larger have 4 locking keys. Smaller sizes have 2 keys. 4 tenons pour les filets rapportés en filet interne de M7 ou supérieure 2 tenons pour les filets rapportés à filet interne inférieur à M7
Pestañas Keys Tenons	AISI 302		
Tolerancias Tolerances Tolérances	Acero al carbono - Zinc fosfatado; Acero inoxidable - Pasivizado Carbon Steel - Zinc Phosphate; Stainless Steel - Passivated Acier au Carbone - Zinc Phosphaté; Acier Inoxydable-Passivé	Tolerancia del agujero previo Tap Drill Hole Tolerance-Metric Tolérance de l'avant-trou	6.90 - 10.80 = +0.100 / -0.025 +12.80 = +0.130 / -0.025



Rosca Interna Internal Thread Filetage Interne Tol 2B "	Rosca Externa External Thread Filetage Externe Tol 2A "	Q "	Hta de Instalación Installation Tool Outil Installation	A "	C "	Macho Taraud Tap Tol 2B "	T Min. "	R1 "	R2 "
--	--	-----	---	-----	-----	------------------------------------	----------	------	------

PARED DELGADA / THIN WALL / PAROI MINCE

10G X 24	5/16 X 18	0.31	3600-190T	"I"	0.32	5/16 X 18	0.37	7/32	1/8
10G X 32	5/16 X 18	0.31	3600-190T	"I"	0.32	5/16 X 18	0.37	7/32	1/8
1/4 X 20	3/8 X 16	0.37	3600-250T	"Q"	0.38	3/8 X 16	0.43	9/32	3/16
1/4 X 28	3/8 X 16	0.37	3600-250T	"Q"	0.38	3/8 X 16	0.43	9/32	3/16
5/16 X 18	7/16 X 14	0.43	3600-312T	"X"	0.44	7/16 X 14	0.50	11/32	3/16
5/16 X 24	7/16 X 14	0.43	3600-312T	"X"	0.44	7/16 X 14	0.50	11/32	3/16
3/8 X 16	1/2 X 13	0.50	3600-375T	29/64	0.51	1/2 X 13	0.56	13/32	3/16
3/8 X 24	1/2 X 13	0.50	3600-375T	29/64	0.51	1/2 X 13	0.56	13/32	3/16
7/16 X 14	9/16 X 12	0.56	3600-375T	33/64	0.57	9/16 X 12	0.62	15/32	3/16
7/16 X 20	9/16 X 12	0.56	3600-375T	33/64	0.57	9/16 X 12	0.62	15/32	3/16
1/2 X 13	5/8 X 11	0.62	3600-500T	37/64	0.63	5/8 X 11	0.68	17/32	3/16
1/2 X 20	5/8 X 11	0.62	3600-500T	37/64	0.63	5/8 X 11	0.68	17/32	3/16

PARED REFORZADA / HEAVY DUTY / PAROI RENFORCÉE

8G X 32	5/16 X 18	0.31	3600-8GHT	"I"	0.32	5/16 X 18	0.37	7/32	1/8
10G X 24	3/8 X 16	0.31	3600-190T	"Q"	0.38	3/8 X 16	0.37	9/32	1/8
10G X 32	3/8 X 16	0.31	3600-190T	"Q"	0.38	3/8 X 16	0.37	9/32	1/8
1/4 X 20	7/16 X 14	0.37	3600-250T	"X"	0.44	7/16 X 14	0.43	11/32	3/16
1/4 X 28	7/16 X 14	0.37	3600-250T	"X"	0.44	7/16 X 14	0.43	11/32	3/16
5/16 X 18	1/2 X 13	0.43	3600-312T	29/64	0.51	1/2 X 13	0.50	13/32	3/16
5/16 X 24	1/2 X 13	0.43	3600-312T	29/64	0.51	1/2 X 13	0.50	13/32	3/16
3/8 X 16	9/16 X 12	0.50	3600-375T	33/64	0.57	9/16 X 12	0.56	15/32	3/16
3/8 X 24	9/16 X 12	0.50	3600-375T	33/64	0.57	9/16 X 12	0.56	15/32	3/16
7/16 X 14	5/8 X 11	0.62	3600-375T	37/64	0.63	5/8 X 11	0.68	17/32	3/16
7/16 X 20	5/8 X 11	0.62	3600-375T	37/64	0.63	5/8 X 11	0.68	17/32	3/16
1/2 X 13	3/4 X 16	0.62	3600-500T	45/64	0.76	3/4 X 16	0.68	21/32	3/16
1/2 X 20	3/4 X 16	0.62	3600-500T	45/64	0.76	3/4 X 16	0.68	21/32	3/16
9/16 X 12	3/4 X 16	0.81	3600-500T	45/64	0.76	3/4 X 16	0.94	21/32	3/16
9/16 X 18	3/4 X 16	0.81	3600-500T	45/64	0.76	3/4 X 16	0.94	21/32	3/16
5/8 X 11	7/8 X 14	0.87	3600-625T	53/64	0.88	7/8 X 14	1.00	25/32	5/16
5/8 X 18	7/8 X 14	0.87	3600-625T	53/64	0.88	7/8 X 14	1.00	25/32	5/16
3/4 X 10	1-1/8 X 12	1.12	3600-875T	1-1/16	1.14	1-1/8 X 12	1.31	31/32	5/16
3/4 X 16	1-1/8 X 12	1.12	3600-875T	1-1/16	1.14	1-1/8 X 12	1.31	31/32	5/16
7/8 X 9	1-1/4 X 12	1.25	3600-875T	1-3/16	1.27	1-1/4 X 12	1.44	1-3/32	5/16
7/8 X 14	1-1/4 X 12	1.25	3600-875T	1-3/16	1.27	1-1/4 X 12	1.44	1-3/32	5/16
1 X 8	1-3/8 X 12	1.37	3600-100T	1-5/16	1.39	1-3/8 X 12	1.56	1-7/32	5/16
1 X 12	1-3/8 X 12	1.37	3600-100T	1-5/16	1.39	1-3/8 X 12	1.56	1-7/32	5/16
1 X 14	1-3/8 X 12	1.37	3600-100T	1-5/16	1.39	1-3/8 X 12	1.56	1-7/32	5/16
1-1/8 X 7	1-1/2 X 12	1.62	3600-1.1/8HT	1-7/16	1.52	1-1/2 X 12	1.84	1-11/32	5/16
1-1/8 X 12	1-1/2 X 12	1.62	3600-1.1/8HT	1-7/16	1.52	1-1/2 X 12	1.84	1-11/32	5/16
1-1/4 X 7	1-5/8 X 12	1.81	3600-1.1/4HT	1-9/16	1.64	1-5/8 X 12	2.06	1-15/32	5/16
1-1/4 X 12	1-5/8 X 12	1.81	3600-1.1/4HT	1-9/16	1.64	1-5/8 X 12	2.06	1-15/32	5/16
1-1/2 X 6	1-7/8 X 12	2.00	3600-1.1/2HT	1-13/16	1.89	1-7/8 X 12	2.28	1-23/32	5/16
1-1/2 X 12	1-7/8 X 12	2.00	3600-1.1/2HT	1-13/16	1.89	1-7/8 X 12	2.28	1-23/32	5/16



COMMERCIAL TERMS

Introduction

Present commercial terms will apply from 15th of July 2014. That means that previously applied terms will not be in effect any more, unless permanence of any specific agreement is strictly allowed.

Payment terms

- 1% Prepayment discount by Cheque or bank transfer within 8 days.
- Breach of payment terms means cutting off following shipments dispatch.

Assurance

In case customer requires any assurance, correspondent premium must be paid by him.

Claims

Customers must check receiving goods once they get them in order to ensure that shipment has been correctly completed. Any claim placed from customers within 8 days will be analyzed, evaluated and explained and CELESA will not accept any returning goods without previous communication.

Returning goods

CELESA will accept returning goods just in case they are considered defective or in cases that mistaken shipment are on fault by CELESA. Goods must be always returned under freight cost paid by sender, with original invoice or packing list.

CELESA must be immediately informed about any returning good, directly or through our sales network. Quality Department will check goods and shortly, a technical or quality report will be completed. If no mistake would be found, CELESA will deduct 15% from the correspondent credit note in concept of handle cost. If customer would be right, goods will be immediately replaced or a credit note would be immediately submitted.

Guarantee

CELESA guarantees that all goods available in the range fulfil all technical requirements regarding Geometrical parameters and Material Treatment without any responsibility in bad using cases. In any case, our responsibility will be limited up to repair or replacement of goods, without any further compensation or punishment.

CELESA reserves the right to modify any good without any previous warning in case of Technical Department considers it an improvement in cutting tool life.

CELESA will never proceed with replacement of any tools without favourable report from Quality Department.

CELESA will never admit any punishment from customers for delays in any shipment.

Minimum order total amount

Minimum order total amount is 60 € Net.

Price list in force

CELESA will apply current price list without any responsibility for customers misunderstanding beyond our content of BLUEMASTER catalogue.

Conditional terms

Acceptance of goods shipped by CELESA without immediate rejection from customer, means approval of above mentioned Commercial terms and any modification will be allowed just in case of written authorization from CELESA.

Taxes

Orders are not subject to VAT.

Retention of title

CELESA sales are subject to retention of title according to Art. 1506 of CC, until any invoice pending payment is completed.

Competent jurisdiction

In case of any misunderstanding in interpretation of these Commercial terms or non-fulfilment from any side may be appealed to the Bilbao Court.

CONDITIONS GÉNÉRALES DE VENTE

Introduction

Les conditions générales de vente sont en vigueur à partir du 15 Juillet 2014 et remplacent et annulent toutes les conditions appliquées antérieurement. Il s'entend que toutes les ventes et livraisons effectuées par CELESA S.A. à partir du 15 Juillet 2014 sont soumises à ces conditions générales, sauf disposition expresse contraire, écrite et signée par les parties contractantes, qui prévaudraient sur les conditions générales.

Modalités de règlement

- Pour tout règlement par avance : escompte 1%.
- Les règlements s'effectueront à 45 jours nets, sous réserve de l'accord préalable de la Direction Administrative et Financière. Ils pourront se faire par LCR, virement ou chèque.
- Le défaut de paiement impliquera l'arrêt immédiat des livraisons.

Assurance

Les marchandises voyagent toujours au seul risque de l'acheteur, étant toujours à sa charge la prime à payer si le client souhaite assurer la marchandise.

Réclamations

Les clients sont tenus d'examiner les produits livrés à leur réception, pour vérifier la conformité avec la commande quant à la ou les références, et le nombre d'unités livrées. En cas de non-conformité ou de différences constatées à la réception du matériel, seront acceptées les réclamations effectuées sous 8 jours après réception. Aucun retour ne sera accepté sans cette communication à CELESA, SA dans les délais indiqués.

Retours

Seront acceptés uniquement les retours pour défaut de fabrication ou erreurs directement attribuables à CELESA, SA, et après approbation du Département Qualité de CELESA, SA. Les retours seront effectués à ports payés et seront accompagnés de la facture originale et du bon de livraison. L'expédition sera effectuée par nos moyens habituels de transport.

Tout retour de matériel doit être immédiatement communiqué à CELESA, SA directement ou par l'intermédiaire du Représentant, les frais de port étant à la charge du client. À la réception de l'outil, notre Département Qualité effectuera les contrôles nécessaires et pertinents, et émettra un rapport. Dans le cas où l'outil ne présenterait aucun défaut imputable à sa qualité, et s'il n'y avait pas d'erreurs imputables à CELESA, SA, 15% du prix d'achat seront déduits en concepts de manipulation et d'inspection.

Garanties

CELESA, SA, garantit tous les outils de son programme de vente contre tout défaut de matière et de fabrication, sans se rendre en aucune manière responsable de l'utilisation inadéquate des dits outils. Dans tous les cas, la responsabilité de CELESA, SA se limite exclusivement à la réparation ou au remplacement de l'outil défectueux à hauteur de la valeur maximale de l'outil fourni, ceci n'engageant aucun avoir ni pénalité pour aucun autre concept.

CELESA, SA se réserve le droit de modifier, sans préavis, les dimensions, nuances d'acier, et en général toute caractéristique technique de ses produits, dès que le Service Technique estime que ce changement suppose une amélioration du produit.

CELESA, SA ne remplacera aucun outil sans un rapport favorable de son Département Qualité, et dans tous les cas en respectant les conditions de fonctionnement décrites dans la section Retours.

CELESA, SA ne pourra accepter aucune réclamation ou pénalité de quelque nature en cas de retards éventuels dans la livraison d'une commande.

Transport

- Les commandes seront envoyées Franco de port en France Métropolitaine à partir d'un montant de 250 € nets.
- Pour les commandes inférieures à 250 € nets, les frais d'envoi seront à la charge du client (ils seront ajoutés au montant des outils envoyés, en fonction de ce qui aura été accordé avec le client, et en utilisant toujours les moyens de transports pour lesquels il existe un accord avec CELESA, S.A.).
- CELESA, S.A. se réserve le droit d'utiliser le moyen de transport le plus adéquat en fonction des caractéristiques, de la destination, du poids et du volume de l'envoi.

Minimum de commande

Le montant minimum de commande est de 60 € net.

Tarif en vigueur

CELESA, SA appliquera les conditions et prix indiqués dans le tarif en vigueur, ne pouvant être rendue responsable d'interprétations externes à son contenu.

Conditionnalité

L'acceptation de la marchandise livrée par CELESA, SA sans refus immédiat par l'acheteur, implique l'acceptation de ces conditions générales de vente. Leur modification sera valide seulement s'il existe un accord écrit de la part de CELESA, SA.

T.V.A.

Les commandes ne sont pas sujettes à la TVA.

Reserve de propriété

Les produits vendus par CELESA, SA restent de sa propriété tant que le règlement intégral des factures correspondant n'a pas été effectué.

Juridiction compétente

Pour tout litige concernant l'interprétation de ces conditions, ou relatif à leur non respect par l'une des parties, celles-ci se soumettent à la juridiction des tribunaux de Bilbao, renonçant à celle qui pourrait être d'éventuelle application.

CONDICIONES GENERALES

Introducción

Las presentes condiciones generales de venta estarán en vigor desde el 15 de Julio de 2014 y vendrán a sustituir y dejar sin efecto a todas las condiciones generales anteriormente aplicadas, entendiéndose que todas las ventas y entregas efectuadas por CELESA, S.A. desde el 15 de Julio de 2014 estarán sometidas a las presentes Condiciones Generales, salvo pacto expreso por escrito firmado por las partes contratantes, en cuyo caso, dichos pactos particulares prevalecerán.

Condiciones de pago

- La forma de pago será acordada individualmente con cada cliente, previa autorización del Departamento Administrativo-Financiero de CELESA, S.A., y adecuándose como máximo a los límites establecidos en la Ley 15/2010 del 5 de Julio de 2010.
- El incumplimiento de las condiciones de pago acordadas supondrá el corte del suministro de forma inmediata.

Vencimientos fijos

En caso de fechas fijas de pago que rebasen los plazos previamente estipulados, giraremos a la fecha fijada inmediatamente anterior, según corresponda, no pudiendo superarse en ningún caso los límites establecidos en la Ley 15/2010 del 5 de Julio de 2010.

Seguro

Las mercancías viajarán siempre por exclusiva cuenta y riesgo del comprador, siendo siempre a cargo del mismo la prima del seguro que se realice, en los casos que el cliente desee asegurarla.

Reclamaciones

Los clientes tienen la obligación de examinar los productos servidos a su recepción, a fin de comprobar su conformidad con el pedido en cuanto a la referencia o referencias servidas, y el número de unidades entregadas. En discrepancias por diferencias observadas en la recepción del material, se atenderán y evaluarán todas aquellas reclamaciones que se planteen dentro de los 8 días siguientes a su recepción, no aceptándose ninguna devolución sin la debida comunicación a CELESA, S.A. en el plazo establecido.

Devoluciones

Únicamente se aceptarán devoluciones por defecto de fabricación o error directamente atribuible a CELESA, S.A., y previa autorización del Departamento de Calidad de CELESA, S.A. Las devoluciones serán a portes pagados, deberán acompañar la factura y albarán original, y el envío se deberá realizar siempre por nuestros medios de transporte habituales.

Cualquier devolución de material deberá ser comunicada de forma inmediata a CELESA, S.A. directamente o por mediación del Representante, corriendo los gastos de transporte por cuenta del cliente. Una vez recibida la herramienta devuelta, nuestro Departamento de Calidad realizará las comprobaciones e inspecciones pertinentes, emitiendo el correspondiente informe. En el caso de que la herramienta no presente ningún defecto atribuible a la calidad de la misma, y no existan errores atribuibles a CELESA, S.A., se deducirá un 15% del valor de compra en concepto de manipulación e inspección de calidad.

Garantías

CELESA, S.A., garantiza todas las herramientas que componen su programa de ventas, contra cualquier defecto de fabricación y materiales, sin responsabilizarse bajo ningún concepto de la utilización inadecuada de las mismas. En cualquier caso, la responsabilidad de CELESA, S.A. estará limitada única y exclusivamente a la reparación o sustitución de la herramienta defectuosa con el límite máximo del valor de la herramienta suministrada, no comprometiéndose abonos ni penalizaciones por ningún otro concepto.

CELESA, S.A., se reserva el derecho de modificar, sin previo aviso, las dimensiones, calidades de acero y en general cualquier característica técnica de sus productos, siempre que el Departamento Técnico considere que dicha variación supone una mejora técnica del producto.

CELESA, S.A. no sustituirá ninguna herramienta sin el informe técnico favorable de nuestro Departamento de Calidad, y respetando en todo momento las condiciones de funcionamiento expuestas en el apartado de Devoluciones.

CELESA, S.A. no admitirá reclamaciones o penalizaciones de ninguna naturaleza en caso de que se produjeran eventuales retrasos en la entrega de un pedido.

Portes

Envíos a Península y Baleares:

- Se suministrarán a portes pagados aquellas expediciones cuyo importe sea superior a 150 € netos.
- Para pedidos inferiores a 150 € netos por expedición los portes irán por cuenta del cliente (portes debidos o cargados en factura según acuerdo con el cliente, y siempre utilizando los medios de transporte con los que CELESA, S.A. mantiene algún tipo de convenio).
- CELESA, S.A. se reserva el derecho a utilizar el medio de transporte mas adecuado según los acuerdos que pueda mantener con características, destino, peso y volumen del envío.

Envíos a Portugal:

- Se suministrarán a portes pagados aquellas expediciones cuyo importe sea superior a 200 € netos.
- Para pedidos inferiores a 200 € netos por expedición los portes irán por cuenta del cliente (portes debidos o cargados en factura según acuerdo con el cliente, y siempre utilizando los medios de transporte con los que CELESA, S.A. mantiene algún tipo de convenio).
- CELESA, S.A. se reserva el derecho a utilizar el medio de transporte mas adecuado según los acuerdos que pueda mantener con características, destino, peso y volumen del envío.

Envíos a Canarias, Ceuta, Melilla y Andorra

- Se suministrarán a portes pagados aquellas expediciones cuyo importe sea superior a 600 € netos.
- Para pedidos inferiores a 600 € netos por expedición los portes irán por cuenta del cliente (portes debidos o cargados en factura según acuerdo con el cliente, y siempre utilizando los medios de transporte con los que CELESA, S.A. mantiene algún tipo de convenio).
- CELESA, S.A. se reserva el derecho a utilizar el medio de transporte mas adecuado según los acuerdos que pueda mantener con características, destino, peso y volumen del envío.

Importe mínimo por pedido

Queda establecido como pedido mínimo la cantidad de 40 € netos.

Tarifa en vigor

CELESA, S.A. aplicará condiciones y precios estipulados en la tarifa en vigor existente en cada momento, no responsabilizándose de interpretaciones ajenas al contenido de la misma.

Condicionalidad

La aceptación de las mercancías suministradas por CELESA, S.A., sin el rechazo inmediato por parte del comprador, supone la aprobación de estas condiciones generales de venta, y su modificación sólo tendrá validez sin consta por escrito la conformidad de CELESA, S.A.

I.V.A.

Los precios están sujetos al Impuesto Sobre el Valor Añadido que esté en vigor en cada momento, siendo éste por cuenta del cliente.

Reserva de dominio

Nuestras ventas se consideran siempre bajo la condición de Reserva de Dominio, según el artículo 1.506 de C.C., hasta que no se haya hecho efectivo íntegramente el pago de todo lo adecuado.

Jurisdicción competente

Para cualquier discrepancia acerca de la interpretación de estas condiciones, o litigio por razón de incumplimiento por cualquiera de las partes, se someten ambas al fuero de los Juzgados Tribunales de Bilbao, con renuncia al que pudiera corresponderles.

2014

CATÁLOGO

CATALOGUE



powercoil
by **celesa**

CELESA S.A.

Polígono Industrial Astolabeitia
C/Matxingoia N°2
48220 ABADIANO Vizcaya
SPAIN

Tel +34 946232532

Fax +34 946201763

Email celesa@bluemaster.es

Email export@bluemaster.es

Web www.bluemaster.es